

SD Times

The Industry Newspaper for Software Development Managers

MARCH 1, 2001

ISSUE NO. 025



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A NEW PERVASIVE ATTITUDE

Company hopes return to database roots will bring about a return to profitability

BY DAVID RUBINSTEIN

It has been written that the tango is the dance of sorrow, created by poor Argentines to escape their plight but instead dramatizing it. After suffering through its own tango, Pervasive Software Inc. is looking for a return to profitability by returning to its roots in database management solutions.

Three years ago, Pervasive acquired EveryWare Development Corp. and its Tango application server, but quickly found itself up against "some very dominant players," said Pervasive's vice president of marketing, Bruce Flory. "We wanted to bring out a product we thought our customers would use, but

that wasn't the case. We took a serious hit in the Tango aftermath"—a hit to the tune of a 67 percent drop in stock price in October 1999, from \$36 to \$12, when the company said it would focus its energies on Tango and not on the database. The stock kept dropping, however, and was trading at around \$2 in early February.

Last July, Flory said, Pervasive made the decision to withdraw marketing support for Tango and decided to turn its attention back to database management. Confident of its decision and its view of the future, the company announced last December it would buy back \$5

► continued on page 12

Hewlett-Packard Tangled Up in Blue

Bluestone plays key role in Java middleware strategy

BY ALAN ZEICHICK

When Hewlett-Packard Co. completed its acquisition of Bluestone Software Inc. in mid-January, many industry observers were concerned that the engineering-centric hardware company, known for its laser printers and pocket calculators, wouldn't know how to integrate the fast-moving software company into its corporate structure.

Apparently HP thinks so too, which is why the company has not only left Bluestone's management team intact, but also placed those executives in

charge of HP's own enterprise software initiatives, all lead by P. Kevin Kilroy, former chairman and CEO of Bluestone, who in February was appointed as vice president and general manager of HP's middleware division, a subsidiary of HP's all-encompassing Software and

.NET Result: Server Family Is Complete

Microsoft's Application Center 2000 streamlines clustering, app deployment

BY ALAN ZEICHICK

With the release of Application Center 2000 to manufacturing in mid-February, Microsoft Corp. has completed the release of its originally planned .NET enterprise servers, according to Bob Pulliam, Microsoft's technical product manager for .NET servers. Now, the focus will be on delivering the rest of the .NET strategy.

Application Center 2000, or AppCenter as it's casually referred to, is a Windows 2000 service that provides server integration and dynamic load balancing, and simplifies the testing and deployment of applications and data in a .NET environment, said Pulliam. "The release of AppCenter is an important step for Microsoft," he said, "because it enables the scale-out of the middle tier." By this, Pulliam

OUT THE DOOR	
• Application Center 2000	February 2001
• BizTalk Server 2000	December 2000
• Internet Security & Acceleration Server 2000	December 2000
• Commerce Server 2000	November 2000
• Exchange Server 2000	October 2000
• Host Integration Server 2000	September 2000
• SQL Server 2000	September 2000

COMING SOON	
• Mobile Information Server 2001	
• SharePoint Portal Server	

referred to the use of AppCenter to allow IT managers to deal with overload servers by adding additional load-balanced servers to an application cluster, rather than migrating applications to a physically more powerful server.

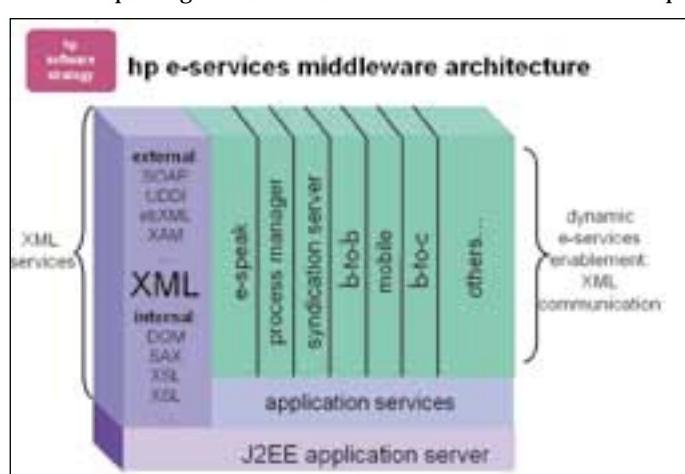
AppCenter (www.microsoft.com/applicationcenter) works

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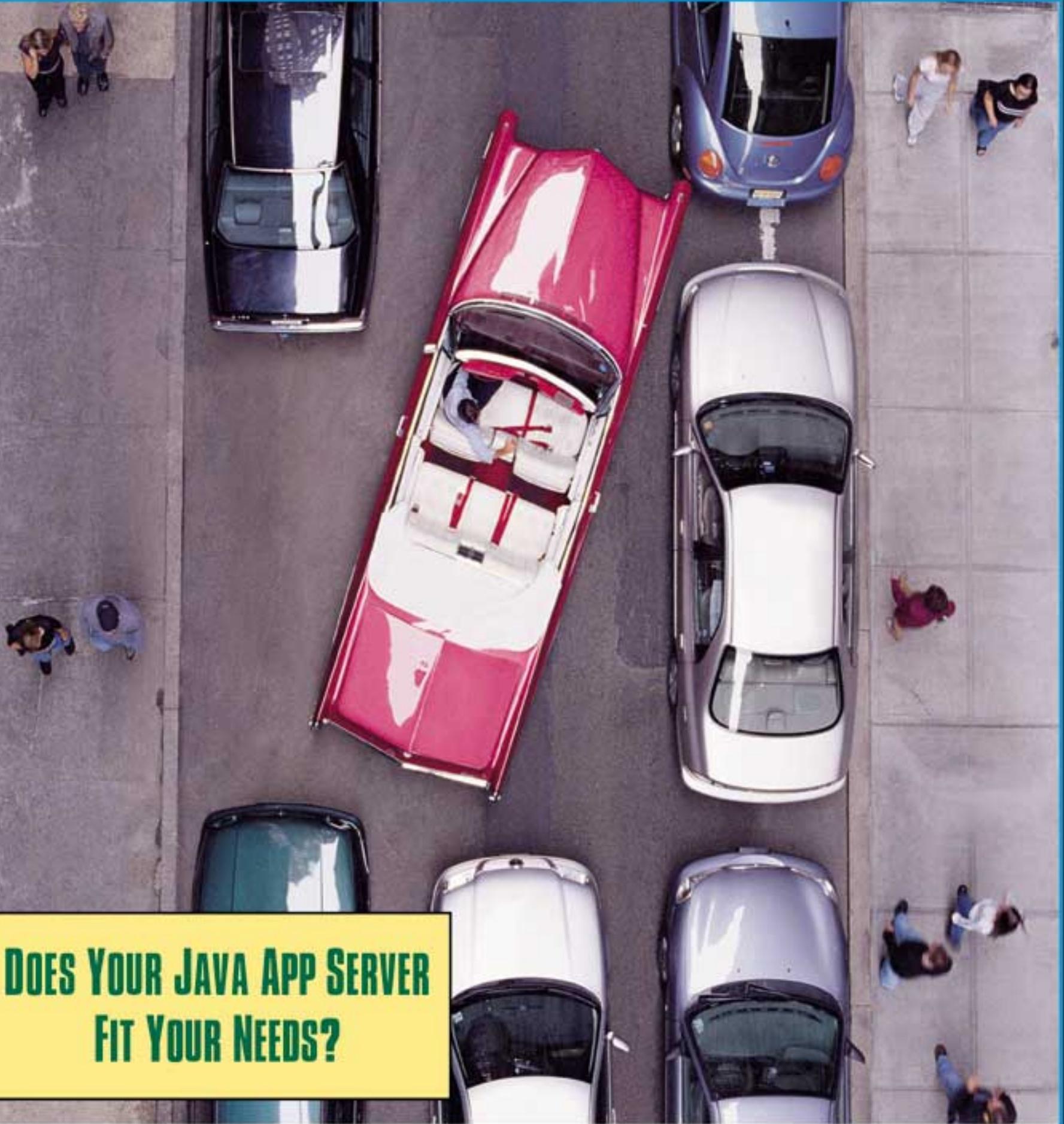
sition," said Eric Buatois, general manager for marketing and strategy at HP's Software and Solutions Organization—himself a 14-year HP veteran—as he discussed the company's evolving software strategy under Kilroy and Bickel. Buatois pointed out that for HP, software, excluding operating systems, is a \$2 billion business.

HP's Software and Solutions Organization will be dividing the company's portfolio into two groups. The first will be centered around OpenView, HP's network and server management platform. The second will encompass Bluestone's e-business application servers and e-business tools, along with HP's existing e-speak XML software, Chai Java-compatible software for mobile devices, and other specialized pieces of software that HP sells to the telephony and ISP markets, such as OpenCall and Internet Usage Manager.

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HP will use Bluestone's J2EE application server as the foundation of its NetAction product family.



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LINUXWORLD SHOWCASES DATABASES, APPLICATION SERVERS

BY DOUGLAS FINLAY

NEW YORK — While attempting to put its best foot forward for the New York financial business crowd, as well as for retailing and manufacturing circles, the LinuxWorld Conference & Expo held recently at the Jacob K. Javits Center nonetheless enticed developers to its booths with new releases of application servers and deployment appliances, a new code-testing service on the Web and updates of popular open-source products for the Linux operating system. The event drew 25,000 attendees to its 250 exhibitors.

"Because mainstream vendors such as IBM and Compaq are adopting the open-source platform, and particularly Linux, it's no longer something just software geeks play with," said Aramis Jordan, IDG World Expo's sales manager for LinuxWorld events. Yet he added that even with the hoped-for larger mix of business people drawn to this conference than to previous shows, "without the full support of software developers, the open-source community and Linux would not be able to move forward" as they do.

Indeed, to underscore the point, Jordan said the Open Source Developers Lab—a loose association of developers with support from vendors to promote Linux—held its first meeting at LinuxWorld, and the

Open Source Developers Network provided a pavilion for the display of open-source projects and resources.

DATABASES

Great Bridge LLC (www.greatbridge.com) announced at the show it was throwing its full support behind the PostgreSQL open-source database, which offers transactional processing, online backup, row-level locking, triggers and constraints. "We've put our company fully behind the database, in the same way Red Hat and Caldera have done for Linux," said David Mele, Great Bridge's vice president of marketing.

Looking to compete in the same enterprise markets as Oracle, PostgreSQL's cost includes only the support provided by Great Bridge, generally in the \$50,000-per-year range, Mele said.

The other open-source database, MySQL, was also represented at LinuxWorld. **NuSphere Corp.** (www.nusphere.com) formally announced at the show that it has contributed code called Gemini to the MySQL open-source database. Many months in the works, the code is designed to add a transactional storage engine and row-level locking capabilities to the popular open-source database. NuSphere CTO D. Britton Johnson said he believed the

addition of transactional capabilities would elevate the database to competitive status with highly commercial databases.

Other features that will be added to MySQL through Gemini include ACID transactions suitable for financial applications, and automatic crash recov-



ery. Gemini is due to be rolled into version 4 of MySQL later this year.

APPLICATION SERVERS

Meanwhile, **Sun Microsystems Inc.** showed its Cobalt RaQ XTR server appliance for the first time to a Linux industry audience. For use as a Web hosting and software deployment device for independent service providers, the RaQ XTR features the Sausalito framework, "a new framework enabling developers to integrate applications into the Cobalt appliance framework with just the click of a button," said Vivek Mehra, Sun's CTO of Cobalt Networks. The application can be launched from the appliance with the click of a button as well, he said. Prices start at \$4,799.

Sun also announced the GridEngine 5.2 software for Linux, a distributed resource management engine aimed at

developers involved in highly technical processes, which reduces production cycle times by seeking out idle processors to engage them in the production cycle. Version 5.2 is being distributed free from www.sun.com/gridware.

Digital Creations Inc. (www.digicool.com) announced the release of its Zope 2.3 application server, which company CEO Paul Everitt called its most significant release since the summer of 1999. Included are scripts that allow for safer Web management of logic, a cache manager for improving response time, a built-in infrastructure for more complex virtual hosting of multiple sites from one server, and a significantly improved interface for Web-based authoring and administration.

Other additions include improvements in WebDAV support, customizable object creation, improvements in cataloging and indexing, and support for abstract interfaces. Zope 2.3 is free at www.zope.org.

Merlin Software Technologies Int. Inc. (www.merlinsofttech.com) debuted its Arcana office application server that features fax, backup, an NT domain controller, a four- or eight-port hub and management software, and provides for Intranet services "all straight out of the box," said

spokesman Glenn Wittrock. Prices start at \$1,000.

LINUX-TO-WINDOWS

NeTraverse Inc.'s (www.netraverse.com) new Win4Lin 25-seat Desktop 2.0 thin-client beta software will enable developers to both test-run Windows applications in Linux and run Windows concurrently over multiple sessions. The company looks to receive feedback on the multiple sessions to add to the software's feature richness in the future, said James Curtin, NeTraverse's CEO.

WEB-BASED CODE TESTING

Cleanscape Software International (www.cleanscape.net) announced the Cleanscape LintPlus Web-accessed linting tool for uploading code to be analyzed and debugged.

"Developers can now upload their static source code and run tests to identify any structural problems," said Brent Duncan, Cleanscape's director of marketing.

LintPlus is available as a demonstration for the next two months at <http://demo2.cleanscape.net/lplus>. Duncan said that only C code can be debugged, but that C++ code debugging is almost ready for inclusion. He added that a variety of reports depicting problems with the code could be generated from the Web site. ■

Sun Takes ONE Giant Step for Web Services

BY DOUGLAS FINLAY

Sun Microsystems Inc. unveiled its version of a Web services future last month with the introduction of its Open Network Environment (ONE), which combines Sun's existing products such as Forte tools with its e-commerce and messaging servers under the Sun-Netscape iPlanet alliance and the venerable Java language to produce content-smart services accessible over any device, from PCs to cell phones.

"There are services available right now, such as messaging and e-commerce, that are not linked to one another. Developers and users still have to work them individually; they are not integrated," said Curtis Sasaki, Sun's director of technological advocacy.

"With Sun ONE, we will take existing products and integrate them to provide an infrastructure to take Web services to the next logical step: smart Web services that will deploy the right content to the right device only."

While maintaining that the Java language and J2EE architecture will continue to be the cornerstone of its future Web services products, Sun has also embraced the emerging standards of Extensible Markup Language (XML), Simple Object Access Protocol (SOAP), Universal Description, Discovery and Integration (UDDI) registry and the Web Service Description Language (WSDL) as equally important to the success of any future Web services.

"We think of Sun ONE as

really our fourth iteration of these products," Sasaki said. He added that while the new standards are indeed critical to any future success, so too are the tool sets that use drag-and-drop

techniques for ease in building components for applications to reuse as Web services.

Taking a swipe at a perennial rival, Sasaki called Microsoft Corp.'s .NET strategy a "vision thing at present." He said the company's new language, C#, for example, has no libraries.

"Libraries are 99 percent of the work; it's not so much the virtual machine." However, Sasaki said, like Microsoft, it would take up to two years for Sun to integrate all the pieces to deliver smart content that knows precisely what content goes to what device. ■

FROM DESKTOP TO WEBTOP

Eager to direct everyone's attention away from the desktop PC and to the Web, Sun Microsystems Inc. announced its new WebTop stack, part of the Sun ONE Web services strategy.

"WebTop is the concept of moving away from the desktop and browser toward an integrated environment, where users can access desktoplike applications from a number of devices in a servicelike environment," said Nancy Lee, Sun's product line manager for Sun ONE WebTop.

She called it a development technology for service providers and ISPs to deliver productivity services in hosted environments to a number of clients.

She said a strong feature of the WebTop would be its ability to provide a consistent interface across varied clients.

"There are three software stacks to Sun ONE," Lee continued. "Tools such as Forte for creating Sun ONE products; deployment platforms such as Solaris and Java; and the assembly

piece called WebTop, for centralizing personal productivity services to deliver to clients."

Calling WebTop a true smart Web service, Lee said that it could now deliver personal productivity files, such as word documents, memos or spreadsheets available from office suites such as Star Office, to clients, and offer a common adaptive user environment for viewing the data in each of the clients.

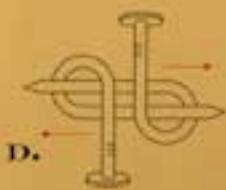
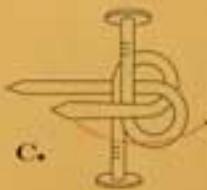
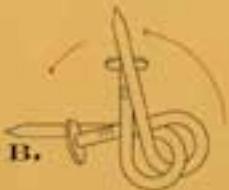
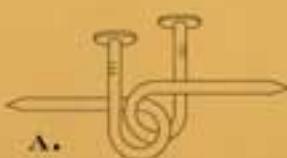
Currently in a small beta program, WebTop will be rolled out to a larger audience within the next two months, Lee said.

—Douglas Finlay



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TagFusion: Cold Fusion for Java

New servlet executes CFML code from within a JVM

BY ALAN ZEICHICK

As one of the oldest application servers for the Web, Allaire Corp.'s Cold Fusion and its Cold Fusion Markup Language (CFML) achieved early popularity. But as the market moved more toward Sun's Java and Microsoft's Active Server Pages models, Cold Fusion lost momentum, and even Allaire hedged its bets with its successful JRun Java-based application server. It was JRun, more than Cold Fusion, which inspired Macromedia Inc. to acquire Allaire.

Could this be the end of the line for Cold Fusion? Not according to the Scottish consulting company N-Ary Ltd. (www.n-ary.com), which has developed a Java-based application that can act as a CFML runtime environment.

According to Mark Roberts, N-Ary's business development manager, the runtime, called TagFusion, is a Java servlet that supports "the majority of the most commonly used CFML tags in addition to supporting

CFML's complete expression language."

Depending on the deployment platform, N-Ary claims that TagFusion (www.tagfusion.com) can run even faster than Allaire's Cold Fusion application server.

For example, the company says that Cold Fusion builds an entire HTML page in memory and sends it to the client browser only when it's complete; TagFusion sends data immediately, rather than holding it in memory, thus using less memory and offering a higher perceived response time.

Database access is one of the more complex issues. Cold Fusion Markup Language normally defines database connectivity using its own language. TagFusion, running on a J2EE-based application server, dynamically translates CFML's database lookups into direct JDBC calls.

Another area that Roberts touted was ease of deployment. A typical Web site consists of hundreds or thousands of individual files containing the CFML scripts. The process of deploying them from a development station to test and production servers can be logistically complex.

TagFusion allows the complete Web site to be tested and deployed as a single .zip file; the TagFusion server extracts, caches and executes CFML files, as they are needed, from the .zip file. Because the entire site is contained in one file, this not only eases deployment, according to the company, but also increases security and improves version control.

TagFusion entered beta testing in mid-February. The company is still determining how to best commercialize and support the product, said Roberts. "We are currently examining the most appropriate route to take TagFusion, whether this is to sell it to another vendor and let them integrate with their own solutions, or alternatively to go the open-source route and concentrate on other products we have in the pipeline." ■

jFactor Speeds Code-Improvement Process

Instantiations' refactoring tool helps meet enterprise standards

BY DOUGLAS FINLAY

Want to know where developers need help? Why not ask them? That's what IBM did when it assembled a feature-request database for its VisualAge for Java customers. And when Instantiations Inc. looked through that database, one word stood out: refactoring. Their response: jFactor.

"Refactoring was among the top three requests of more than 650 submitted by developers to the database," said Mark Johnson, Instantiations' vice president of marketing and business development. "We looked at it as an opportunity, because our business is predicated on augmenting or building supplements to base software tools from OEMs."

Instantiations built jFactor to offer developers "a disciplined way to clean up their code for better maintainability, reliability and reusability without changing the behavior of the existing software program," Johnson said, adding that the impetus for jFactor was to

improve the code design after the program was written.

"Developers aren't normally thinking about reuse or proper design when they are in the editor writing down their ideas of how to make a program function," Johnson said. Refactoring, or incrementally improving functional code, comes into play only after programmers have written and tested the code and determine if its structure is reliable, maintainable and reusable.

Johnson said jFactor (www.instantiations.com/jfactor) includes four categories for strengthening code structures: method refactorings, field refactorings, class refactorings and package refactorings. Within each of the categories are more specific techniques, he said. For example, one extract method permits the developer to take a code fragment from a chunk of code, move it into a new chunk and then create a call from the old chunk into the fragment in the new chunk of code.

He said that developers

using the automated tools could cut refactoring and code improvement down to about 15 minutes from literally hours, helping to more easily and efficiently comply with corporate standards and naming conventions. "Otherwise," he said, "developers would have to follow a sequence of refactoring manually, discouraging them from doing it at all."

He added that the refactoring tool would also help managers accelerate products to market because it takes less time to refactor code.

Instantiations also released Version 2.0 of Visual Age Assist Enterprise/J for Visual Age for Java (www.instantiations.com/assist), which is claimed to offer enhancements in source code editing, method bookmarking, intrarepository broadcast messaging and global task automation.

jFactor for Visual Age for Java and Visual Age Assist Enterprise/J for Visual Age for Java are each \$895, and are available immediately. ■

News Briefs

COMPANIES

Allaire Corp.'s alliance with Compoze Software Inc. will let the two companies collaborate on an Enterprise JavaBeans (EJB) program that integrates with Allaire's JRun 3.0 application server. Compoze's J2EE-compliant EJB components, running on its Harmony Component Suite within the JRun 3.0 server, will help create development and deployment environments that deliver enterprise component applications such as scheduling, calendaring, content management, tasks and journal and discussion forums . . . Integrated Computer Solutions Inc. and Sitraka Software Inc. will be working to integrate ICS's BX Pro GUI builder for OSF/Motif on Linux and Unix with Sitraka's XRT Professional Developers Suite for Motif components. The integration kit for XRT is available now for \$1,500 per license . . . SilverStream Software Inc. and BEA Systems Inc. plan to support the J2EE Connector Architecture 1.0 specification, part of the forthcoming J2EE 1.3 standard. The architecture is a specification for connecting J2EE technology-based Java applications to a wide array of enterprise information systems . . . Parthus Technologies PLC has become a member of the Java Community Process program, where it will be working to define a Java API for a range of mobile Internet platforms . . . DevelopOnline Corp. will offer PointBase Inc.'s Java database on DevelopOnLine's open-platform Web site, by the end of March.

PRODUCTS

Bear River Associates has released the Janx server-side Java application framework for developing Web sites, which, combined with XML, create Java servlets. It is said to be useful for Web sites where personalization and dynamic content are essential . . . Wise Solutions Inc.'s new Wise for Windows Installer Version 3.1 offers support for creating software installations for Intel's 64-bit Itanium processor. Users can create new 64-bit Windows Installer packages, or convert existing 32-bit Windows Installer packages to 64-bit packages . . . Microware Systems Corp.'s OS-9 real-time operating system product suite is being ported to Intel's XScale microprocessor architecture; it will be available for beta beginning in April . . . Objectivity Inc.'s Objectivity XML Interface Tool facilitates the export of objects from Objectivity/DB 6.0.3 and the import of XML formatted data into Objectivity/DB 6.0 . . . Rainbow Technologies Inc.'s Digital Rights Management Group has released Sentinel SuperProNet security key and SuperPro 6.1 security software that secures client/server applications from unauthorized execution while protecting the applications from illegal licensing and distribution. The company says that as many as 28 applications can be secured by a single key, when combining the two products . . . Sleepycat Software Inc.'s version 3.2 of Berkeley DB, an open-source database, includes a new port for the QNX realtime platform for development of applications for handheld and set-top box devices. Version 3.2 is available free at <http://get.qnx.com> . . . Empirix Inc.'s Bean Test 3.1 EJB tester has been optimized for IBM's WebSphere Application Server version 3.5. Features of 3.1 include AutoGen for automatically generating multithreaded Java Test Clients, accurate load generation for simulating real-world conditions, and extensive reporting of response times and exceptions. The addition is free to users of 3.1, which costs \$29,995.

PEOPLE



Rogue Wave Software Inc. has named David Rice as vice president of marketing. He was formerly the company's vice president and general manager of infrastructure products. The company also named James E. Smith as executive vice president of worldwide sales

RICE . . . Software AG Inc. has named Gary M. Voight as president and CEO. Voight was former senior vice president of global sales and services for SAGA Systems, recently acquired by Software AG . . . TimeSys Corp. has tapped Francis X. Dougherty as its new CEO, assuming the role from president and former CEO Srinivas Vasan. Dougherty was most recently Sun Microsystems Inc.'s director of technical operations. ■



Novell Serves Up Intranet Portals

Plans for Portal Services to be offered cross-platform

BY ALAN ZEICHICK

There's more to Novell than NetWare.

That could be the new slogan at Novell Inc., the company that once ruled corporate America's local area networks, and whose flagship server operating system lost ground to

Microsoft's Windows NT Server. Now the company is back with a new platform, called Novell Portal Services, which will initially be run on NetWare and IBM's WebSphere application server, but which the company says will soon be ported to additional operating systems.

Craig Miller, vice president and general manager of Novell's Net Management Group, described Portal Services, which the company first publicly discussed in September 2000, as a way for enterprises to quickly build directory-enabled intranet applications, usable by employ-

ees or even partners and suppliers via a single sign-on, based on Novell's Directory Services. Portal Services can be used to create customized Web pages and resources or provide access to enterprise applications,



Portal Services

allow for directory-enabled apps, according to Novell's Miller.

Miller, because Portal Services runs as an application on top of WebSphere—which is bundled with NetWare 5.1—developers can customize Portal Services using C, C++, Java, JavaScript, Perl or any other language supported by WebSphere.

What about development? Miller was quick to put Novell's past behind it. "You don't have to write to NLMs anymore," he said, referring to the old NetWare Loadable Module format required to add new software to a NetWare server. In fact, said

all with high levels of security, said Miller.

The NetWare version of Portal Services entered a public beta in February, and is expected to become generally available in the first half of 2001. Pricing was not disclosed, but according to Miller, licenses will be sold per end-user seat. Additional versions of Portal Services, able to run on WebSphere on other operating systems, are under development, but a date for release was also not disclosed. ■

W3C Workshop Focuses on Web Services

BY DOUGLAS FINLAY

The World Wide Web Consortium is embarking on an ambitious program to define the low-level plumbing involved in making Web services work across all systems. Its first step: a Web services workshop.

"We're looking to clear up a lot of confusion about Web services by getting as many partners as we can into an open workshop setting and communicate the issues," said Bob Sutor, IBM Corp.'s liaison to the W3C. He said

that because Simple Object Access Protocol (SOAP)—now under study at the W3C (www.w3.org)—addresses only the transport protocol aspect of coming Web services, there are other issues that the organization needs to address: reliability, security, transactions and privacy among them.

He maintained that the focus of the workshop would be to gather as many industry groups and participants as possible to "describe the services now emerging and to develop a way to connect

those services to the workflow." He hoped that such meetings would help define services to such an extent as to enable such standards-setting groups as BizTalk, ebXML, ICE and RosettaNet to get on the same page for the lower-level protocols.

Mitch Shue, outgoing appointed chief technical architect for RosettaNet, which has staunchly promoted defining low-level standards so it could focus on differentiation, said he believes the workshop is a commendable effort in ad-

dressing a broader range of issues than most groups had previously. But he expressed concern about the proliferation of initiatives in this area, saying that he hopes the workshop considers existing specifications under development, such as Universal Description, Discovery and Integration (UDDI), rather than inventing something new. "Don't further confuse the industry with yet another consortium or group they need to track."

The free workshop will be held April 11 to April 12 at the Doubletree Hotel in San Jose, Calif., and is open to up to 80 W3C members only. ■

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First Test Automation Conference to Debut in San Jose

BY DOUGLAS FINLAY

The emerging need for software testing in an increasingly complex e-business environment has spawned the first-ever Software Test Automation Conference & Exposition, scheduled for March

5 through March 8 at the Fairmont Hotel in San Jose, Calif. Software Quality Engineering Inc. (www.sqe.com), which already produces the STAR conferences on software test analysis, is sponsoring the

event. The four-day Software Test Automation Conference will focus on software issues of scalability, cost, improved quality and productivity for e-business and e-commerce.

"The frantic demand for im-

proved quality and productivity with reduced cost and cycle time is driving more companies to test software to reduce big risks—and even bigger problems," said Wayne Middleton, SQE's president. He said the new confer-

ence would provide expert advice, hands-on experience, new ideas and practical tips for advancing software test automation while providing solid proven fundamentals for developers new to software testing.

The conference, which the organizers claim will draw upwards of 800 CIOs, CTOs, developers and software test managers, will feature two keynote sessions: Test Automation—State-of-the-Practice, presented by Edward Kit, president of Software Development Technologies Inc.; and The New Economics of Test Automation, presented by Linda Hayes, president of WorkSoft Inc.

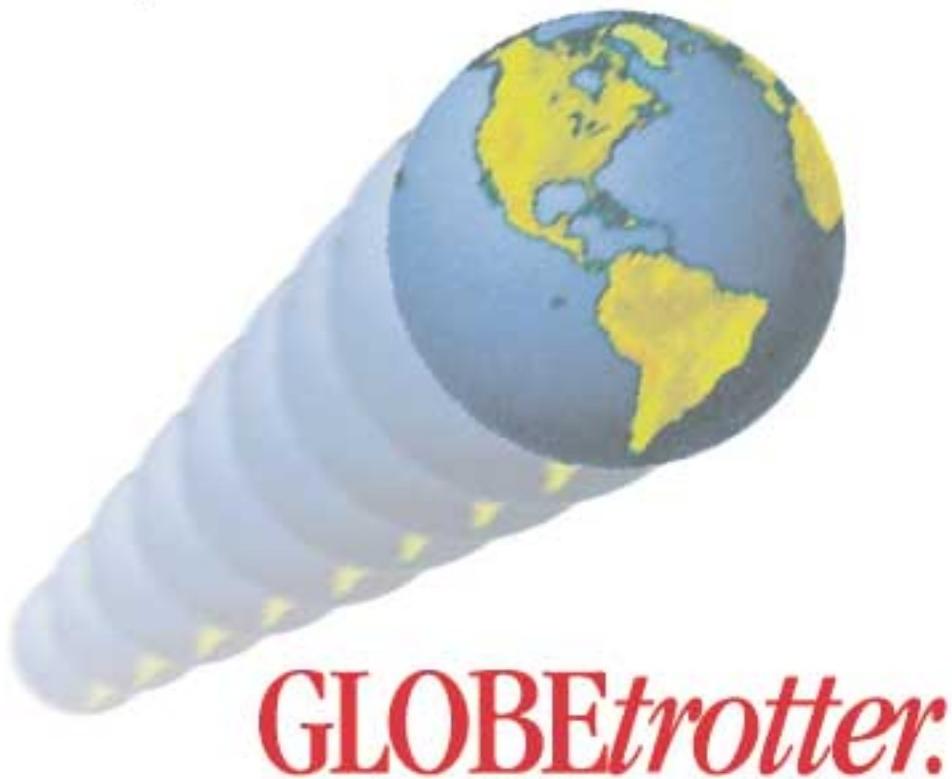
Preconference tutorials will open the four-day conference on Monday, March 5, with four planned from 9 a.m. to 5 p.m. They include Introduction to Testing Web Sites/Applications; Automating Test Execution: From Theory to Practice; and Business Process Certification—An Automated Approach.

Five tutorials are planned for Tuesday, March 6, again from 9 a.m. to 5 p.m., and include Web Site/Application System Testing: Performance, Scalability and Security; Selecting and Implementing Test Execution Tools; and Building an Automated Test Environment.

The conference will also have a trade show open on Tuesday and Wednesday, and the floor is expected to feature 30 exhibitors.

A second conference is scheduled for Aug. 27 to Aug. 30 in Boston. ■

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Wednesday, 10:30 a.m.-12:30 p.m.;
2 p.m.-5 p.m.
Thursday, 10:30 a.m.-12:30 p.m.;
2 p.m.-5:30 p.m.

KEYNOTES:

Wednesday, Keynote I:
"Test Automation—State-of-the-Practice,"
Edward Kit, 8:30 a.m.-9:30 a.m.

Thursday, Keynote II:
"The New Economics of Test Automation,"
Linda Hayes, 8:30 a.m.-9:30 a.m.

Sitraka Integration Portal Serves JProbe

BY DAVID RUBINSTEIN

In an attempt to help its customers deploy its JProbe tool suite on multiple Java platforms, Sitraka Software has launched the Integration Portal, a set of Web-based documents and screen shots designed to help users speed up performance tuning of J2EE applications.

JProbe is Sitraka's application analyzer, composed of various modules that help developers maximize performance

DART AIDS ITANIUM MIGRATION

BY EDWARD J. CORREIA

How hard will it be to migrate 32-bit Windows applications to run on Intel's forthcoming 64-bit Itanium processor? A free utility can help you analyze the process, at least for Visual C++ programs.

MigaTec Inc., which specializes in software migration tools and services, has released the Downloadable Assessment Reporting Tool (DART) 1.0, a code analysis utility for Microsoft's Visual C++ applications.

According to MigaTec CEO Curtis Overstreet, DART is intended to give enterprise executives a quick glimpse of code readiness for migration to new platforms. "They want to know up-front about the nature and scope of the project," he said.

DART reads the application source code and reports the number of files and lines of code in need of adjustment, and then reports a sampling of the problems found for the selected migration path.

Vice president of marketing Simon Mack described DART as "a light version of 64Express, which gives a line-by-line report" of code change requirements and also can automate code changes. 64Express is available for migrating Win32 applications to AIX 5L and IA-64 for Linux. Pricing is based on the number of lines of code to be ported.

The free tool can be downloaded at www.migratec.com/dartboard. The company said it also plans to release versions of DART for other platforms, and is working on a version for porting Win32 applications to 32-bit Linux platforms. ■

by diagnosing and eliminating code errors with memory allocation, threading and code coverage. The suite also includes an application profiler. "People want to use our tool suite with different application

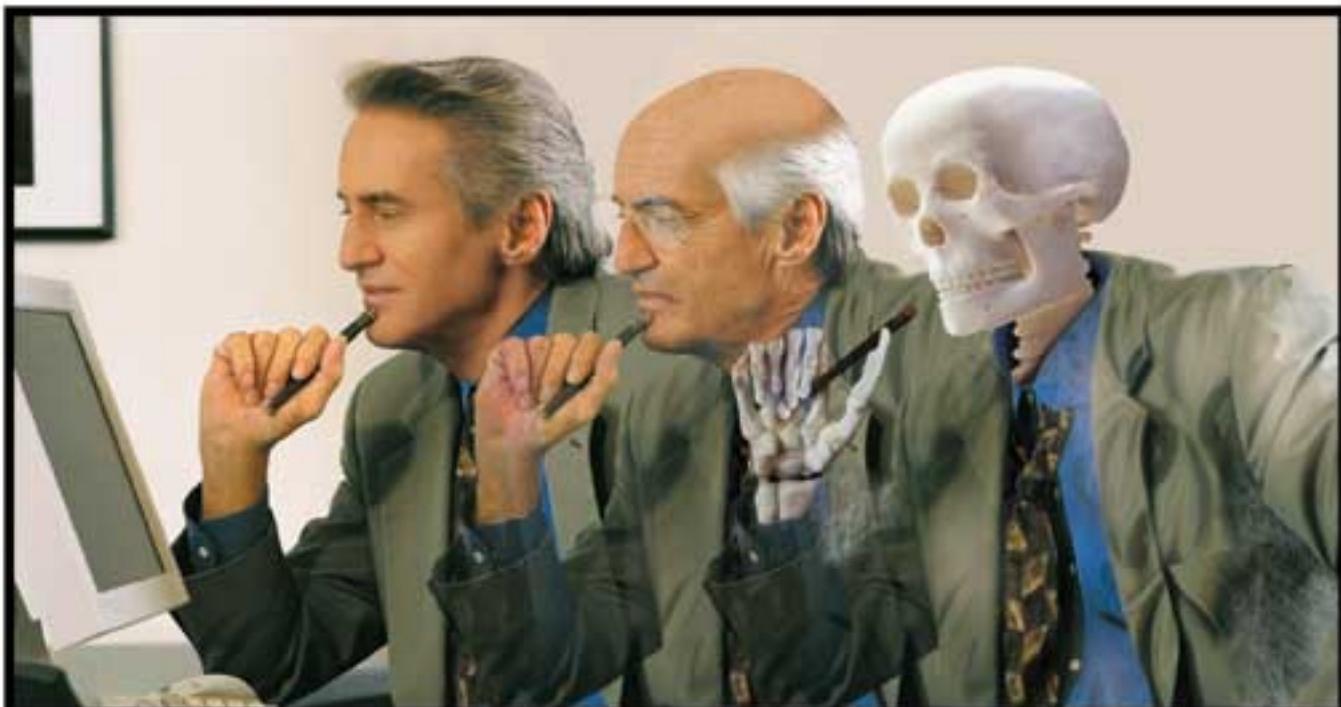
servers, and they wanted clear direction to integrate the product suite with those servers," said Leonard Slipp, product manager for JProbe.

The Integration Portal allows JProbe customers to choose an

application server on which to deploy their applications, and provides instruction for integration, Slipp said, adding that technical information on the site is updated on a weekly basis.

JProbe supports most major

J2EE-compliant application servers, including Allaire's JRun, Apache JServe and Tomcat, BEA's WebLogic and IBM's WebSphere, as well as servers from Borland, iPlanet, SilverStream and Unify, Slipp said. The Integration Portal is free for JProbe users at www.sitraka.com/jprobe/j2ee. ■



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Java/XML Code Integrates Financial Applications

New architecture could span all enterprises where transaction processing is critical

BY DOUGLAS FINLAY

In an unusual move that cracks open an otherwise closed industry, the German bank Dresdner Kleinwort Wasserstein has re-

leased a Java/XML infrastructure to the open-source community that integrates financial data without the need to write customized code to do so.

Calling the technology OpenAdaptor, the bank released the source code to www.openadaptor.org, where it will be maintained by CollabNet Inc.

"The bank has been running a global trading system with this Java/XML architecture," said Frank Hecker, CollabNet's systems engineering manager. He

said that besides the obvious financial institutions such as banks and brokerages that could benefit from the architecture, "any enterprise such as aerospace, health care, insurance and manufacturing that has large-scale transaction systems that need to be integrated" would benefit.

Bernie Mills, CollabNet's vice president of marketing, added that companies experiencing growth through mergers and acquisitions that find data spread throughout several databases in need of integration would also find the open-source architecture useful.

Hecker described OpenAdaptor as a Java/XML architecture for the rapid integration of business systems without the need for custom code to integrate them. "It was developed as a toolkit at the bank for integrating its own systems and deploying to partners it was interacting with," he said.

Mills said that because the architecture doesn't deploy actual business applications or services of the bank, bank officials decided to make the code available for open-source developers to create backbones for their own applications. Mills said, "Dresdner can't make a commercial success of this, except for the applications it puts together internally." Indeed, he said, Dresdner developers looked forward to accessing innovative code developed by open-source developers to add to their own bank systems.

"It will also increase the base of developers available to build on the code," he added.

Openadaptor.org will offer open-source developers a license to use the code for their own purposes within an enterprise—or to jointly develop new applications—as well as actual code. And, through CollabNet's (www.collabnet.com) SourceCast software, the site will also provide an issue-tracking system for defects; a source repository to obtain copies and keep them updated via subscription to an e-mail service; and discussion groups on evolution of the code and applications being written for it. ■

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MICROSOFT

◀ continued from page 1

in conjunction with COM+, the component model and middleware layer at the foundation of Windows 2000 Server, to integrate multiple instances of applications and data running on as many as 12 servers. "Normally, if you had 10 servers, you'd have to manage each of them individually," said Pulliam. "AppCenter works as middleware for stateless clustering. Each server runs independently, and AppCenter provides the load balancing." This is distinct, he said, from the clustering features built into Windows 2000 Advanced Server and Datacenter Server, which are designed to handle failover situations, not provide load balancing.

Touting AppCenter's primary benefit as lowering the complexity of installing and maintaining servers and applications, Pulliam described the process of managing an AppCenter-

based cluster as being essentially that of managing a single server. "One server is designated as the staging server," he said, "and software updates are installed onto that server. AppCenter distributes the changes to the other servers in the cluster." This technique can also be used by developers, he said,

to simplify the process of migrating custom applications from development stations to testing to final deployment. "From the development standpoint, AppCenter migrates you through the entire development cycle," he said, adding that the service is transparent—there are no new APIs

that an application must use in order to work with AppCenter.

According to Pulliam, customers who are part of Microsoft's Select program should have received Application Center 2000 disks in February. Retail customers will be able to purchase AppCenter beginning this month. The new software is

priced at \$2,999 per processor. "AppCenter will allow customers to reallocate operational costs to fixed costs, such as by reducing the need to add head count as you add more servers," concluded Pulliam. "We want to take on big iron," he said, "and [with AppCenter] we've got the better model." ■

HP

◀ continued from page 1

Along with the new organization, Buatois unveiled a new brand name—NetAction—that would be used as a family name for all of the non-OpenView products.

Buatois indicated that although HP's existing software products historically favored Microsoft's Windows platform,



the company sees greater potential in the Java space—another reason, he said, why HP wanted to purchase the middleware J2EE-compliant Bluestone products and technical expertise.

"It's our opinion that we can offer more value in middleware on Java than on Microsoft," said Buatois, but he stopped short of abandoning HP's long-standing partnership with Redmond: "HP is committed to full compatibility with both J2EE/XML and Microsoft .NET."

According to Buatois, the company's first priority will be to beef up HP's XML proficiency. HP will continue to emphasize its strong telecom market position, with new voice and data services and products, and will also be investing in additional mobile technologies. ■

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Rogue Wave Helps With Large-Scale O-R Mapping

BY DOUGLAS FINLAY

Rogue Wave Software Inc. is helping customers cope with large-scale object-to-relational mapping projects by offering a new consulting service focused purely on that problem.

The new service will offer direct mapping of large-scale objects common in large enterprises to relational databases across distributed environments.

"We are now providing a service on how to map objects to

relational databases that takes existing products and uses them alongside our consulting expertise," said Scott Hendrickson, director of product management at Rogue Wave (www.roguewave.com).

He said that because Rogue Wave's C++ component libraries—such as Threads.h++, which helps developers create cross-platform multithreaded application use in HP-UX, OS/390 and Windows; and DBTools.h++,

which provides portable connectivity to relational databases—have been sold into large enterprise environments, where large-scale objects are used, "we will expand our services along this line."

He explained that current object-to-relational mapping is a challenge because, "for developers, the object model is one aspect of the world they are trying to model, and the relational model is another aspect of the world they are trying to model."

By understanding particular vertical industry dynamics, the service would provide consultation on how to apply direct mapping that generates code via a meta language such as XML, for example, eliminating the need for changes to both models when mapping, thereby avoiding brittleness, Hendrickson said. ■

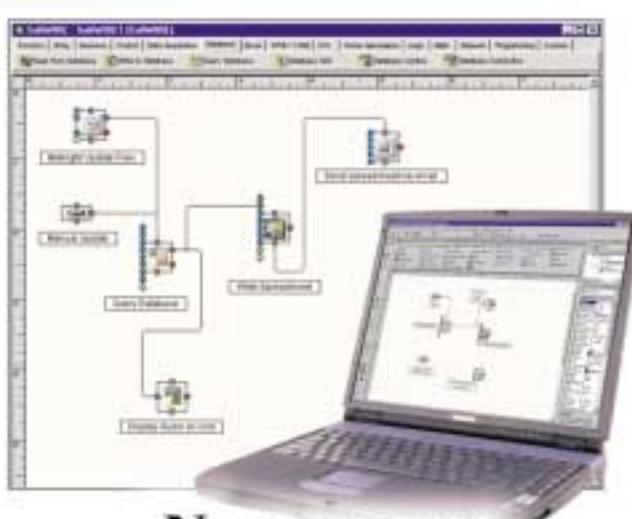


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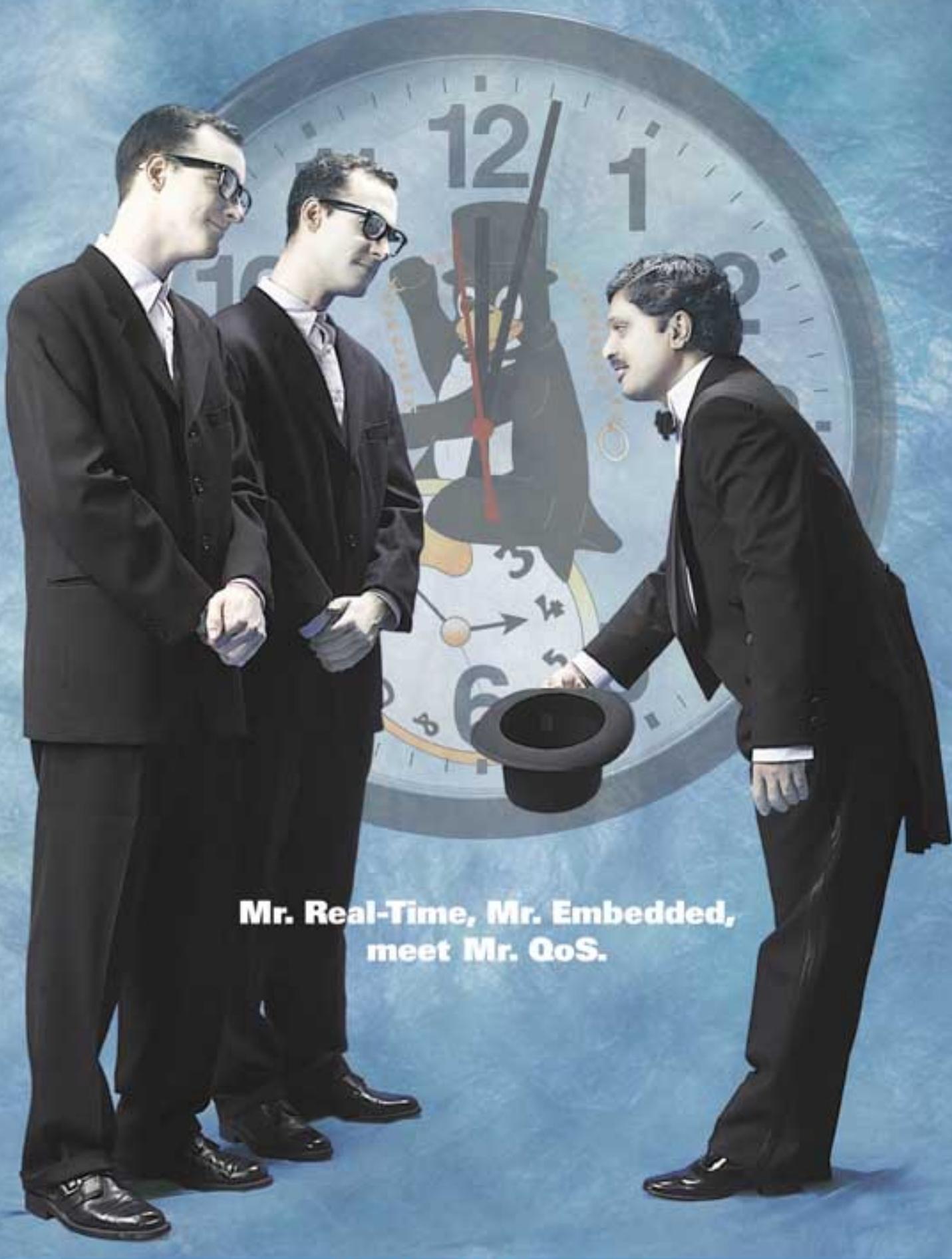
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million of its stock.

And this week, Pervasive is rolling out SQL 2000i, an update of its database product that first was released in July 1999, in a move to help its customers and partners leverage the Internet, Flory said. Among the important features of SQL 2000i, according to Pervasive's senior product manager, Steve Slezak, is that it acts identically across multiple platforms, without dual stacks, the need to remaster the database or change the code for particular operating systems. The database can be deployed on Linux, NetWare, Solaris or Windows NT servers.

Another advantage Slezak cited was SQL 2000i's Pervasive System Analyzer, which ensures that only a single version of the database application is installed onto a server, thereby preventing version or DLL conflicts. "Our competitive advantage is keeping it simple," Slezak said, stating that the System Analyzer will find any older installations and either allow for rollback or overwrite them.

SQL 2000i is compliant with many Internet standards, Slezak said, including OLE DB 2.5, JDBC 2.0 level 4 and ODBC. The SQL 2000i SDK includes ActiveX components, Java Class Libraries and Delphi/C++ Builder for creating custom applications, he said.

Pervasive's SQL 2000i is expected to ship March 1, with a base price of \$995 for 10 users. ■



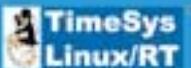
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 LINEO™

Embedded Linux: From Ponytails to Suits

BY EDWARD J. CORREIA

NEW YORK — Thousands of professionals streamed into the Jacob K. Javits Convention Center on the city's West Side from Jan. 31 to Feb. 2 to attend the LinuxWorld Conference & Expo. The LinuxWorld crowd, which normally is agog with long-haired developers, was quiet, subdued and businesslike.

Among the notable events at the show was the coming out of **Aduva Corp.**, an ambitious service company that could prove invaluable to enterprise Linux developers. Aduva makes its living by analyzing all the Linux versions for all the different processors and storing their component lists and interdependencies in a knowledge base, which it sells in the form of the Aduva Director and related software.

Customers pay a monthly fee, and Aduva helps make sure their companies' servers, desktops and embedded devices all have the most up-to-date Linux software. If a component is identified as missing, outdated or corrupt, a replacement can be downloaded and installed. According to the company (www.aduva.com), the repository is continuously being updated with new products, patches, upgrades and other developments emerging from the Linux community.

According to Shlomo Weintraub, Aduva's COO, what sets the system apart from ordinary system management software is its ability to be used for home-grown applications and components as well. "Enterprise developers can send us their applications for certification in our labs. Once it is tested and certified against the Linux running in their organization, they can take advantage of our installation mechanism to deploy their software." The components then become a part of the knowledge-base configuration for that company, he said, and changes to software configurations are monitored along with the operating system. Weintraub said that the system also detects new hardware and can automatically download and install the appropriate drivers, effectively



Aduva's system can be used on home-grown apps, says Weintraub.

adding what he called "plug-and-play for Linux."

The service, which currently covers Red Hat Linux versions 6.0 through 6.2 for Intel platforms, costs between \$60 and \$100 per server per month and about half that for desktops, depending on volume, and includes support. A one-time setup fee also applies. The service is free to individuals for noncommercial use.

LynuxWorks Inc. (www.linuxworks.com) previewed the next version of its LynxOS, which will include the Linux application binary interface, and feature binary compatibility between Linux and LynxOS, according to the company. What this means is that Linux applications will run unchanged on LynxOS, the company's real-time operating system, the company said.

According to Inder Singh, LynuxWorks' president and CEO, with binary compatibility enterprise developers can leverage their existing Linux applications. "The advantages are that customers can take any software and run it wherever they need real-time," he said. The company demonstrated the capability at the show using Quake, a popular game that had been compiled for Linux on x86



Tri-M's MZ104 board is built around the MachZ SoC.

and then run directly on a box running LynxOS.

Another advantage to binary compatibility, Singh said, is platform portability without the need for application source code, which may not always be available. A release date has not yet been set.

LynuxWorks also announced at the show that, together with wireless software developer **Rappore Technologies Inc.** (www.rappore.com), it has ported its Bluetooth 1.1-compliant stack and accompanying communications software to BlueCat Linux. The software is intended to permit devices running BlueCat Linux, such as handheld computers, portable office equipment, cell phones and medical and industrial equipment, to operate wirelessly using Bluetooth's low-power radio frequency technology.

Lineo Inc. (www.lineo.com) announced that it will acquire

Embedded Power Corp. for an undisclosed sum. Embedded Power, a private company, develops real-time operating systems, including its flagship RTXC, and developers' tools for 8- and 16-bit microprocessors and 32-bit DSPs.

According to Blake Stowell, Lineo's director of public relations, the company was looking for a way to expand into the low end of the market. "We had to find a way to go after the 8- and 16-bit market," he said. Embeddix, Lineo's brand of Linux, is compatible only with 32-bit processors, Stowell said. Lineo will retain all of the 27 Houston and Austin, Texas-based employees of Embedded Power, which will now operate under the Lineo name.

ZF Linux Devices Inc. (www.zflinux.com) demonstrated the MachZ, a system-on-a-chip (SoC) being used in a variety of new reference designs, which the company offers royalty-free. The MachZ integrates an x86-compatible processor, Phoenix BIOS, PCI and ISA busses, floppy and hard disk controllers, plus USB, serial and parallel ports. Also included is the company's FailSafe System, which allows it to boot and reload its flash in the event of system failure or interrupted upgrade. The half-watt chip requires no heat sync or fan. For enterprise developers and

OEMs, the company offers the MachZ Integrated Development System, an ATX-size, video-ready development PC kit with BlueCat Linux, for \$1,800. The system also supports DOS, QNX, VxWorks and Windows.

Canadian board manufacturer **Tri-M Engineering Inc.** (www.tri-m.com), which specializes in boards for hostile environments, demonstrated its flagship MZ104 breakout board that is built around the MachZ SoC.

Doug Stead, Tri-M's founder and CEO, said that aside from its space-saving properties, the all-inclusive MachZ SoC offers additional benefits for enterprise developers and OEMs. "Only the largest companies can sit across from an Intel, Phoenix and all the other companies necessary to integrate a PC," he said, adding that entry level for chip purchases is around 100,000 units, far too many for all but the largest or most well-funded companies.

Another advantage of building around an established processor is the abundance of engineers. "Every university turns out rivers a mile wide with people trained to program for the x86, unlike pSOS and others, which people don't have a clue about," he said.

MZ104 pricing is dependent on volume. But according to Stead, customers need as many as 25,000 or 30,000 units before it makes more sense to contract a custom board. ■

SUN RELEASES J2ME FOR LINUX

Faster, smaller Java one step closer to omnipresence

BY EDWARD J. CORREIA

With the release of the Java 2 Platform Micro Edition for Linux, Sun Microsystems Inc. extends Java's Linux reach from servers and desktops to include embedded devices, lending further affirmation to embedded Linux—a platform that has not suffered from a lack of momentum.

"Sun has witnessed a sharp increase in embedded Linux development," said Bob Tennant, Sun's group manager for J2ME. He spoke of companies currently in talks with Sun that are developing enterprise

applications ranging from point-of-sale terminals that display customer-specific up-sell information in real time, to gas pumps that monitor a station's fuel tanks to detect leaks and make deliveries more efficient.

Tennant also cited some of the advantages of writing in Java as embedded Linux gains acceptance. "All operators, including cell, cable and IT departments, have to deploy software. If you're a mobile device operator, you don't want to be tied to a single hardware platform. A compa-

ny like [Japanese telecom company] NTT Docomo Inc. deploys five or six different phones; add to that [a Compaq] iPaq" Linux-based handheld computer, and service deployment can be difficult, he said. Future cost savings also come into play, said Tennant.

"As cheaper chip sets come along, companies can easily convert without rewriting their Java applications."

The new features of J2ME that make it suitable for an

embedded Linux device are the Connected Device Configuration and Foundation profile. "The CDC and Foundation are everything in Personal Java minus the user interface,"

he said. Also new is faster bytecode execution speed. "There's new code running on a new code base that gives better performance than the [previous] Personal Java JVM" by a factor of about 1.5 to 2 times, he said.

The new J2ME features, which were announced at the recent LinuxWorld Conference & Expo in New York, are available now for free download at www.sun.com/software/communitysource. ■



Sun has seen a sharp rise in embedded Linux, says Tennant.

DevelopOnline Broadens Its Scope

BY EDWARD J. CORREIA

The Internet is a common resource for downloading development software and information. A new start-up, DevelopOnline.com Corp., also thinks that it should be a

resource for accessing embedded-oriented development hardware platforms.

At the recent LinuxWorld Conference & Expo in New York, the company announced a bevy of new alliances that will

add Motorola and Texas Instruments to its target hardware list, and Metrowerks' CodeWarrior IDE for Linux and Lineo's Embeddix SDK as newly available online software development tools.

DevelopOnline (www.developonline.com) is a service that instantly gives enterprise developers access to hardware reference designs. "It's a great way to get access to silicon that might otherwise be

unavailable," said Greg Stoner, Metrowerks' vice president of corporate strategy. Metrowerks announced a deal that will make its CodeWarrior IDE available online to developers targeting hardware from Metrowerks' parent company, Motorola, whose MPC8260 processor board is scheduled to come online in April.

Mike Dillon, DevelopOnline's vice president of sales, underlined Stoner's assertions of the scarcity of development boards. "If you think it's tough getting hardware in North America, try getting it in China," he said. Dillon was quick to point out that says Metrowerks' Stoner. provides shared access to real hardware. "Developers reserve a board like a tennis court. This is not simulation."

A key advantage to the enterprise is that developers can create prototypes with virtually no risk and no up-front hardware costs, said Dillon. "The markets are moving so fast that a few weeks' head start can make the difference between a product that's a home run and an also-



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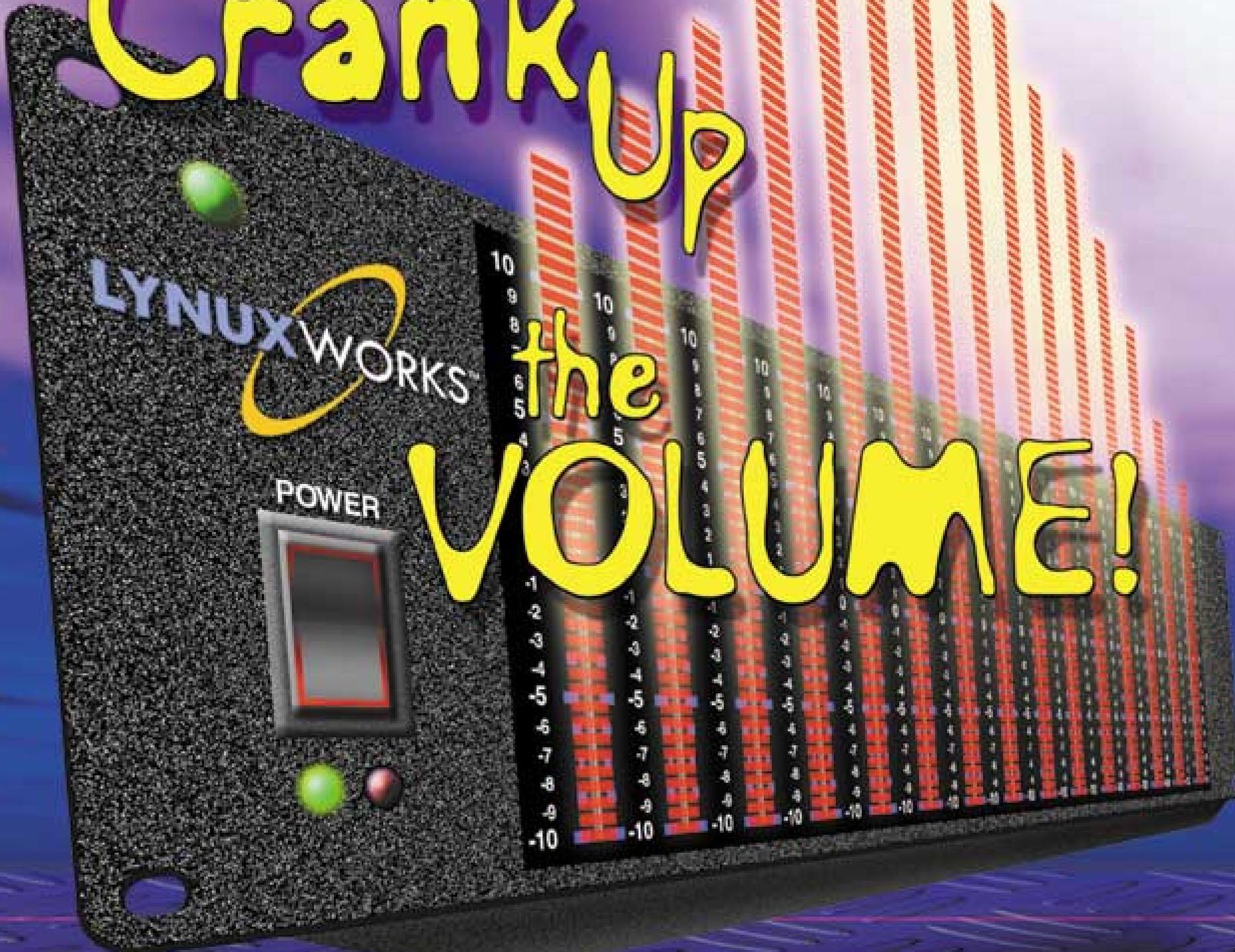
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ran," said Dillon. All sensitive communications use 128-bit encryption. Code can reside at the developer's site or can be stored online, enabling multiple developers to collaborate. All code is removed prior to each new time slot, Dillon assured.

Also at the show, the company demonstrated online access to the Insignia Jeode Java Embedded Virtual Machine running on a StrongARM-based handheld computer running Monta Vista's Hard Hat Linux; and to the Pointbase Mobile Edition Database Management system running on a Compaq iPAQ with Hard Hat Linux. Both systems are available to developers now. ■

Crank Up the VOLUME!



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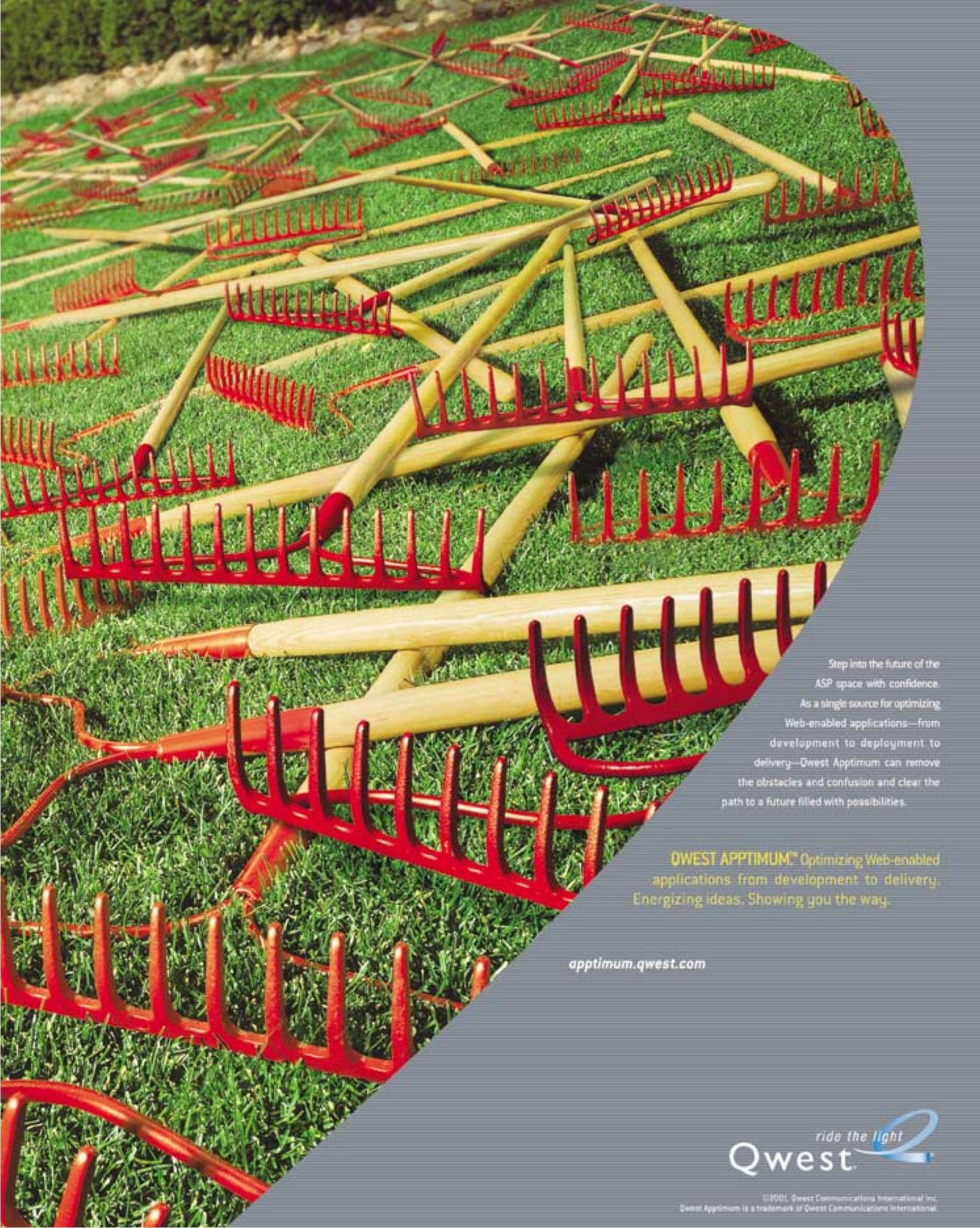
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A photograph of a large, open field of vibrant green grass. Scattered across the field are numerous red plastic garden rakes, their heads pointing towards the bottom right of the frame. The rakes are of various sizes and types, some with wooden handles and others with metal ones. In the background, there's a white picket fence and a line of trees under a blue sky with white clouds.

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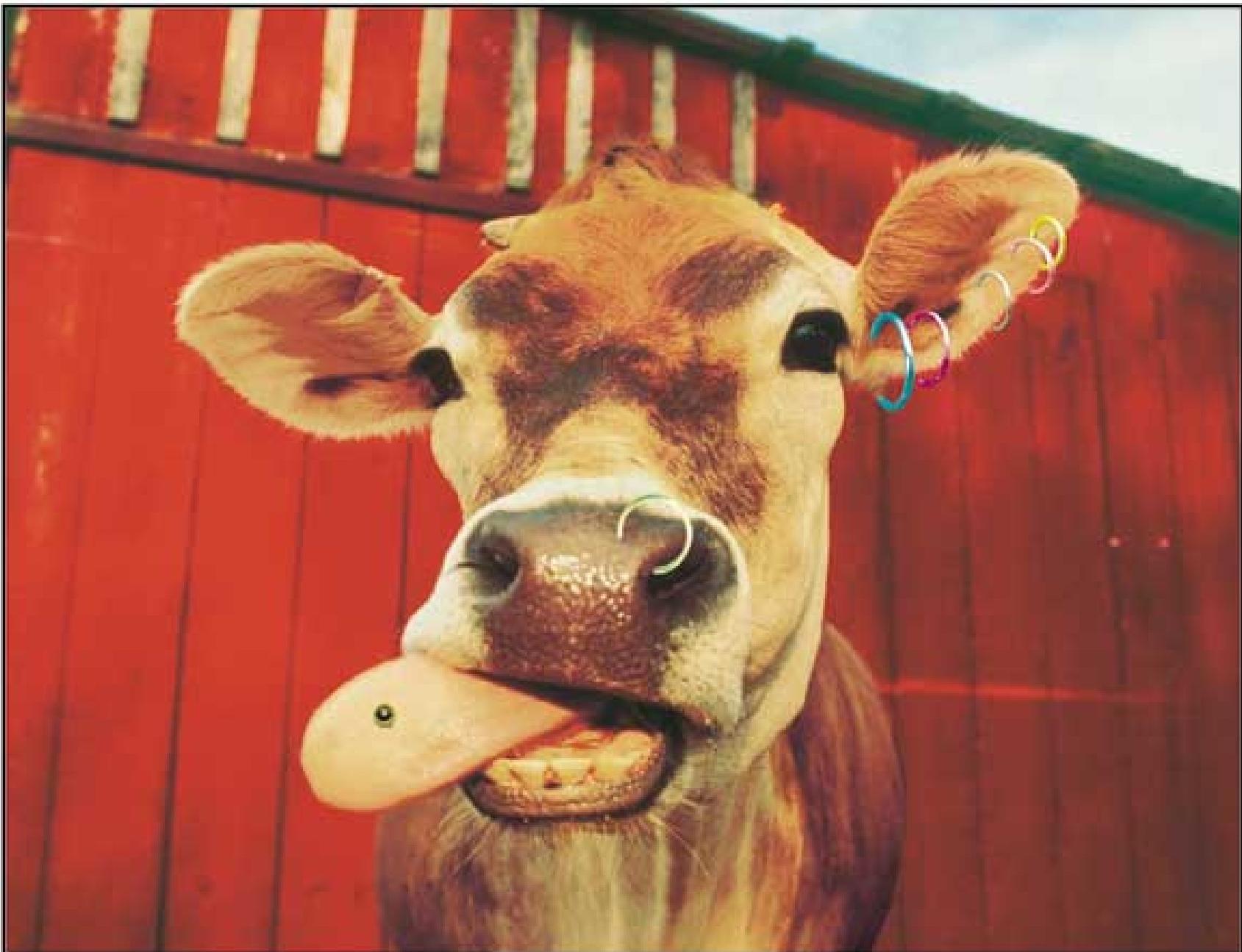
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THE MEANING OF XML

At the tender age of 16, W. Scott Means, the co-author of "XML in a Nutshell," found himself drafted from Microsoft Corp.'s intern program, where he was working as a programmer on OS/2, into the presentation manager group, directly bypassing college because he'd been too busy programming to apply. After a five-year stint at Microsoft, Means returned to South Carolina where he began consulting for companies such as Fleet Bank.

SD Times: What was your main objective in writing "XML in a Nutshell"?

W. Scott Means: Basically, the point that we wanted to make is that XML is a simple technology and not digress

into features that are only interesting to people who work with SGML. We tried to focus on the stuff that you're going to use every day and compartmentalize the more complex stuff. What it's meant to do—and what it does if you use it properly—is save you a lot of time when you're developing new systems.

What do you see XML being used for?

In addition to B-to-B, integration of legacy systems and as a protocol within new applications, people are beginning to author new documents in XML, which sort of dovetails out of the EAI usage. This still isn't super-prevalent because the tools aren't really there for doing so natively—by that I mean pure

In Game of Tag, XML's It

But what's it been doing for you lately?

BY ALYSON BEHR

Enough already with all the recent media hype about XML. Now that XML has gained serious acceptance and we acknowledge it as a real enabling force, what's interesting is exactly how users are harnessing XML's power and what they plan to do with it.

Although you hear XML described almost as if it's monolithic, it acts differently depending on how it's being applied. Three distinctly different scenarios are emerging as increasing numbers of XML deployments are launched. The first is the classic business-to-business or e-commerce application. The second, newer model is for internal use to integrate legacy systems where XML is used as a translation server in an EAI-like manner. The third and newest use is as a communication protocol within a distributed application. In other words, the application server, database server and the Web server that make up your Web site could be using XML internally as a closed system as opposed to utilizing a more open system like Microsoft's BizTalk server, or a B-to-B exchange.

B-TO-B: THE LOW-HANGING FRUIT

Businesses have been doing business with one another since the dawn of business, but there are numerous inefficiencies such as faxes, phones and

time-zone issues. Ed Julson, business development manager of XML technologies at Sun Microsystems Inc., characterized B-to-B, B-to-C application as the "low-hanging fruit" for XML. "In XML there's going to be a way, without changing the business relationships or the business processes, to facilitate the exchange of information. Simply automating the end points of a nonautomated Web-based process can drive a significant chunk of the cost out of transactions that are taking place today." Lowering the cost of business is one of XML's chief benefits regardless of its application and, indeed, one of the most compelling reasons for companies in vertical markets to integrate XML-based B-to-B solutions. Julson noted, "XML is very appealing to a lot of companies, but they want to know how they can do this so it works well with all of their trading partners. It gets you out of the EDI [Electronic Data Interchange] trap that we have today, which is that EDI is very much application-centric. It's really not scalable or portable and usable by anybody without pretty deep pockets."

There are a number of efforts under way to further XML uses in e-business. Enterprises with vertical markets realize that they need to standardize terminology within business messages and relate

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W. Scott Means



given that we have a standard in place. So the community is going to have to wait to see which DTD standard pulls into the lead, and it's going to be pretty painful for a while.

What's the next killer app?

That's a tough one, but I think that Tim Berners-Lee's concept of the semantic Web is where we're headed. Basically, right now Web pages are written by people for people, but as Web sites start to convert slowly to an XML basis with enhanced search functions, it'll make the Web a lot more powerful as an information repository.

—Alyson Behr

XML editors. That's going to change since the next generation of Microsoft Word and Office are supposed to provide native support. There are a couple of good editors, but building a pure XML document is more difficult than going into Word and just writing it. The benefit to writing it in XML is that you can transform it for Web display, display it on paper or stick it in a database and pull it back out.

What challenges lie ahead for XML as a technology?

Schemas and the issue of who's really responsible for determining what these document types are will be a killer hurdle. I don't think XML as a core language is going to change significantly

The Evolution of XML

BY ALYSON BEHR

Where would we be if SGML hadn't morphed into XML? What if XML disappeared tomorrow? From all the buzz surrounding XML, you'd think that Charles Darwin had just

announced his theory of evolution and XML was it. Of course it's not, but in its own way it will have a profound effect on the evolution of our use of the Web, and that's what all the excitement is about. That's also why

it's critical for the industry to have a clear understanding of what it is, what it's not, what works about it and what doesn't.

THERE IS ONLY ONE XML

The current W3C 1.0 XML spec-

ification (www.w3.org/TR/2000/REC-xml-20001006) is XML. "There really is only one XML," said RosettaNet's chief technical architect, Mitch Shue, "and what people do is use the specification to create their own grammars and vocabularies for particular purposes." Yet in some quarters confusion abounds, not just over

the numerous acronyms, but between XML and Java. Ed Julson, business development manager of XML technologies at Sun Microsystems Inc., explained: "Two years ago, we began hearing noises in the industry about people wanting to compare XML to Java... and we didn't understand why the comparisons were being made. They're complementary technologies but very different from each other." Julson believes that this is a nonissue now, but it may not be. XML is a markup language, a way to format data. It's not a programming language, so you won't find an XML compiler anywhere.

ALL THE ACRONYMS

Many believe that what's presenting the challenge in the industry is the multitude of acronyms, such as NewsML, aecXML, fpML, ebXML, JAXP and JAXM, being bandied about. "As platform vendors and [standards] organizations, we've kind of done a disservice in not making this easier to follow or understand because XML is extensible," Julson said. "The fact that all these vertical industries are defining and extending their own vocabularies is good. The downside to that is that it creates a ton of what are perceived as XML standards. They're really not XML standards, but that's not well understood. We need to separate in people's minds what are the core set of things you need to build applications, what are best practices for using them, and what are the things you shouldn't care about."

THE WORK TO BE DONE

With XML still in its infancy, there's plenty of work to be done in terms of improving the technology. Derek Coburn, director of the Java and e-business program at IDC, described the road ahead, saying, "We still need to address standards and schema development, security and general education at the top levels in business." He added that most of these issues are being rapidly resolved.

According to Zona Research's Martin Marshall, however, one issue that may not get resolved overnight is an XML standard for enterprise management of access control lists and authorizations where two conflicting standards, S2ML and AuthXML, are battling it out. Marshall said, "Until the S2ML/AuthXML

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XML: Tread With Caution

Industry CEO warns misuse will undermine the technology

BY DAVID RUBINSTEIN

Most industry insiders agree that XML is an important standard that will change the way application development is done. One executive, however, cautioned that if it is misused, it will create more problems than it will solve.

Jon Radoff, CEO at content management solution provider Eprise Corp. (www.eprise.com), has been involved in what he calls "the online universe" for 15 years, building some of the early Web sites. "We would run into the same problem over and over again, and that is the world's most expensive typing pool...the Web masters," he said. "We wanted to be able to write software to automate much of what they were doing."

To that end, Radoff acknowledges that XML is a valuable commodity. He cited three areas in which the use of XML is appropriate—EAI, B-to-B exchanges and defining templates—but he also raised some yellow flags.

"Some people take it too far, to think XML will solve many of their application development problems," Radoff said.

"Just because I have an ASCII keyboard doesn't mean I have a word-processing application."

Radoff believes that XML will find its best use for enterprise application integration, along with as a means of exchanging packetized data and as a foundation to the concept of a Web services-driven application architecture, of which Radoff said Microsoft's .NET is a good example. However, he cautioned that in some cases, XML is being used as a proprietary API, and he warns users to ask the vendors why XML is in the application and how it's being used, rather than merely assuming that because there's XML, the application can deliver interoperability.

"The reality is that XML in itself is not inherently interoperable," he said. "It's what you do with XML that really matters. There are a lot of products out there that just include XML as a checklist item." Radoff said he knows of project managers who put XML on a specification to make their CIOs happy without explaining what XML's role is. This creates proprietary schemas that compound the difficulty of managing and maintaining properties of the infrastructure, he claimed.

XML also is finding wide acceptance in the area of B-to-B exchanges, Radoff said, citing RosettaNet as an example of an area with promise, although he added that true business-to-business standardization still is a few years away. The time is now, he said, for industries to agree on what exchange formats they will use to prevent problems down the

road. "There is no commonality with XML unless partners and customers demand it," he said. "They must find out how applications are going to support interoperability."

Finally, Radoff said, XML is becoming a big player in the area of template definition, as it is used to form containers for information about organizing a Web site's infrastructure. But the problem comes in,



XML's use in an application should be defined, says Eprise's Radoff.

he said, when business people take the handoff from technical people but can't use the information for a lack of understanding. It is imperative, he insisted, for those people creating Web infrastructures to use XML in a user-interface context to make it easy for business people to get their hands around. "[XML] should not be turned into yet another programming language," he cautioned. ■

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them to common business processes.

One of the major initiatives in this arena is ebXML. A key differentiator from most other XML business frameworks is ebXML's emphasis on business processes. ebXML defines a meta-model that describes process patterns that con-

tain message sequences utilized to achieve business goals. These sequences detail the data exchanged between business partners. The result is that ebXML processes can define actions such as "sell us \$3 million worth of steel" or "provide us with Internet access service," instead of simply generating electronic versions of paper documents like purchase orders that humans then need to process.

Core components, or the reusable data found in business messages, are another important factor for ebXML. Different businesses or industries use dissimilar terminology to represent the same data. Amtrak may call the person with a train ticket a passenger, but that same individual might buy a gift at a store in the train station and be identified as a buyer who then might send the

package via FedEx, which will call the buyer a shipper, and so on. Core components create a way for different industries in a vertical market to continue using their own terms in business messages and still achieve interoperability.

RosettaNet (www.rosettanet.org), a relatively mature consortium of several key vendors and a major player in the B-to-B XML space, focuses on XML's ability to specify business documents. "RosettaNet's a perfect example of what XML has proven useful for," said RosettaNet's chief technical architect, Mitch Shue. "RosettaNet creates these standards called Partner Interface Processes, or PIPs, that encapsulate business activities that business partners might engage in, and as a part of a PIP we specify business documents like purchase orders or invoices and what they should look like."

Regardless of the specific approach taken, it's clear that XML has gained a strong foothold and that great strides are being made within the B-to-B area. It shouldn't come as a surprise, however, that many XML early adopters are testing the waters internally before diving in.

GETTING THE FEET WET

Integrating legacy systems internally through the use of a translation server such as Microsoft's BizTalk is a natural way for companies to leverage XML's benefits. This can decrease the corporate pain of searching through disparate or one-off conversions that have resulted from decades of "silo computing" and at the same time allow familiarity with XML's behavior. According to Shue, "People have invested a ton of resources into software infrastructure, and they're not about to throw it all out. They're not going to throw out an SAP system, so instead of embracing the proprietary way that you would interface with these systems, legacy and otherwise, they're exposing the functionality and services of those systems in the form of XML." Stephen Mohr, XML fellow at XMLabs (www.omicron.com/xmlabs/), a Philadelphia-based Omicron Consulting start-up, concurs. "XMLabs customers are starting out internally," Mohr said. "When we started, you didn't find partners who were XML-enabled. Even now with projects that are just getting under way, where they're saying they definitely want to exchange legacy data, they lack the experience with XML. They're starting out with a pilot project where they control both ends of the exchange so they're doing application integration with XML."

Content management solutions vendor Documentum Inc. (www.documentum.com) uses XML internally within its products because it increases the functionality of the application. According to Una Kearns, XML architect for Documentum, some of Documentum's customers are using its solutions for legacy

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systems integration. "XML provides an excellent means of exchanging information between applications or ERP systems. In this case, it's a pure exchange scenario where the products are performing an EAI type of integration," Kearns said. Kearns noted that they also use XML within the application because of its flexibility and because it ensures that Documentum's products are compatible with other XML tools. "One of our main goals in providing solutions to our customers is tying the solutions with XML authoring, transformation, searching, storage and automatic recognition detection tools. It's been a huge undertaking for us," Kearns said.

WAKE UP AND SMELL THE COFFEE

Utilizing XML within applications as a communication protocol is perhaps one of the more recent trends in XML's rise to power. Serving as a ubiquitous message interchange format, XML greatly increases the interoperability between J2EE-based applications and other systems, and as a result, a J2EE-based server can talk to any other server on a platform-independent basis.

XMLabs' Mohr said, "Within Java, in the past you'd serialize components with your own proprietary binary format. JavaBeans seems to be moving toward serializing using XML, which is very nice, because then when you want to exchange data, you've already got it in XML because you're building the basic component in a form that will stream XML." Mohr described another intriguing use: "In the Mozilla browser, you have the dynamic setup of GUIs based on XML where someone can go in, edit the XML and say this is how I want my desktop set up. So you'll see applications and operating systems that can be customized through XML."

AND THE NEXT KILLER APP IS?
Predictably, the next killer app depends on whom you're asking and in what space they're playing. A front-runner, however, may be new Web services such as the automotive industry's OnStar service. Analysts see XML as driving the next generation of the Internet via Web services as well as other cost efficiencies. Derek Coburn, director of the Java and e-business program at IDC, places an emphasis on cost-cutting benefits. "Regardless of which application XML users are implementing or planning to implement, XML is performing in killer form for the enterprise when it comes to increasing speed to market and reducing the cost and pain of doing business," he said. ▀



XML is being used internally at first, says XMLabs' Mohr.

EVOLUTION

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issue is resolved, there will not be industry agreement on XML-based security, so we may see a hodge-podge of early adopters promising to change their software if a standard should arise."

The promise of XML, however, is leading some people to misuse it.

"People can get really carried away and encapsulate huge amounts of data into a single XML document so you get messages exchanged that are just enormous and there are some processing costs to that," RosettaNet's Shue said. "After all, it's essentially a text file and there's some penalty to pay there. As equipment and software efficiencies improve however, that will come less

into play." Additionally, RosettaNet realizes that not everything can be expressed in XML so it's providing a means for sending a binary picture of the document as an attachment.

While XML's potential is high, until it has a chance to mature, it appears that most users plan to follow RosettaNet's lead and hedge their bets one way or another. ▀

EDITORIAL

It's All About Web Services

Give Microsoft Corp. credit. Thanks to last year's media blitz on the company's .NET strategy, the entire world has started thinking about Web services. At first, Microsoft stood alone, but the rest of the e-business infrastructure industry has begun to see a comparable vision. Oracle Corp. and now Sun Microsystems Inc. have begun to announce their own Web-service offerings. Even the W3C is getting into the act, deliberating the role that standards should play in this emerging area.

One thing alone is missing: agreement about what Web services actually are. And as such, it's hard to convince customers that Web services are the Next Big Thing, worthy of substantial investment.

There are some areas of agreement. Web services will use the Internet as a networking infrastructure, with XML the default file format. Organizations such as ebXML, RosettaNet and UDDI will provide common XML dialects, business taxonomies and resource directories to help businesses conduct business directly over the Internet. After that, definitions diverge.

IBM Corp. says that "Web services are a new breed of Web application. They are self-contained, self-describing, modular applications that can be published, located and invoked across the Web. Web services perform functions, which can be anything from simple requests to complicated business processes."

Microsoft similarly defines a Web service as "simply an application delivered as a service that can be integrated with other Web services using Internet standards. In other words, it's a URL-addressable resource that programmatically returns information to clients who want to use it."

Oracle does not like the phrase "Web services," but the company's vision is of helping customers write software that can be hosted by ASPs (such as Oracle) using Oracle's E-Business Suite and the Oracle 9i application server.

What is Sun's view? In the words of iPlanet's Marge Breyer, "We generally describe Web services as content and software processes, delivered over the Internet, using loosely coupled processes, and increasingly XML interfaces, to 'service' a particular set of user needs. The idea is that Web services result from software components being discovered and combined, possibly multiple times, to provide a highly specialized service to the customer."

IBM and Microsoft make Web services seem like a distributed object model. Oracle seems to be refocusing as an ASP, and as a seller of tools to ASPs. Sun appears to view Web services as a customizable and dynamic content aggregation and delivery platform.

Each company also touts a vision of HTTP and XML-based Web services tightly coupled with its own core technologies and products. IBM: Web services = WebSphere. Microsoft: Web services = COM+ and .NET. Oracle: Web services = Oracle 9i. Sun: Web services = J2EE.

The premise of Web services—that the Internet can serve as a vendor-independent native platform for distributed applications—is certainly an exciting one. It may be some time, however, before the premise turns into reality. ■

GUEST VIEW

PUT THE WORLD TO WORK

Why, according to a recent survey, are 40 percent of U.S. companies planning to engage in global applications outsourcing within the next year or two? It all boils down to supply and demand. The growth in Internet and intranet projects, the continuing drive to automate critical business processes, and the need to maintain legacy systems are all creating demand for IT professionals. Yet, the number of computer science graduates dropped 42 percent between 1986 and 1995. The result is that more than 400,000 technical jobs are vacant in this country's \$300 billion software and services market, according to the Information Technology Association of America.

Global outsourcing has the potential to fill a substantial portion of this gap. A number of developing countries have invested heavily in technical education and can provide a ready supply of bright people at a relatively low cost. Infrastructure improvements in many developing nations, particularly in the area of telecommunications, and the fact that IT professionals tend to work independently, make it possible to bring this talent to bear on virtually any programming task.

Traditionally, the most active location for staging these types of IT initiatives has been India. A strong supply of English-speaking software programming talent, favorable government and tax incentives and a 12-hour time difference that complements U.S. time zones are some of the advantages that this country has to offer. American corporations appear to be taking notice. According to equity research firm Jefferies & Co., more than 185 Fortune 500 companies outsourced some aspect of their IT requirements to India in the 1999-to-2000 time frame.

How can you take advantage of the benefits of outsourcing without falling victim to the potential pitfalls? The first step is selecting the right business applications. The most appropriate candidates generally are large projects that have been defined to the point that they do not require day-to-day interaction between business and devel-

opment teams. While many companies think of outsourcing first as a method of handling new application development, it's important to note that it has equal or greater relevance to maintenance and enhancements of existing applications. Many companies prefer to handle strategic initiatives with their internal IT staff, because they have greater knowledge of business rules, and outsource the maintenance of legacy systems. This approach has the advantage of maximizing the knowledge capital invested in individual professionals by enabling their dedication to maximum value-added activities.

IT managers who have sent work overseas agree almost to a person on the need for a vendor-supplied project manager at the client site. The on-site manager is responsible for maintaining close contact with business managers and transmitting a sense of urgency to the development staff. Ideally, the on-site manager should develop a sense of shared ownership of and responsibility for the project with the customer. It is particularly important that the on-site manager be experienced in handling the administrative and cultural challenges involved in outsourcing.

Nearly all applications can be affected by shifts in internal and external drivers, such as changes in the regulatory environment. The on-site manager is responsible for quickly identifying such changes and developing and implementing plans to accommodate them.

Another value-added service provided by the on-site manager is transcending cultural differences. American business people have certain expectations about how technology projects should progress, how priorities should be established, and the vital importance of communicating potential obstacles on a timely basis. Many countries in the developing world do not necessarily manage projects according to Western styles and standards. In particular, many Asian cultures place a considerable emphasis on maintaining face, with the result that overseas managers and programmers are known for keeping quiet even when problems have arisen. The

model of locating the overseas programmers within a Western-style business organization under the direction of an on-site project manager who is knowledgeable in business, technical and cultural issues ensures that U.S.-style project-management values are maintained.

Effectively communicating the outsourcing plan within the client organization is crucial. The support of the executive team, IT staff and user community is usually required to successfully outsource an application. Most IT staff members will look at how the outsourcing project affects them as individuals. If you tell a programmer that he is being provided with a training program that will prepare him to participate in a more strategic project, he will nearly always enthusiastically promote the transfer of knowledge to the outsourcing team. On the other hand, suppose the programmer hears about the outsourcing project through the grapevine and then one day a person arrives to learn his job. There's a good chance that the programmer will intentionally withhold information in an effort to improve his bargaining position.

Paying attention to these issues will help ensure successful global outsourcing. Companies that follow the guidelines described here generally experience cost savings ranging from 20 percent up to 50 percent. If the company previously relied on a consulting strategy, the savings tend toward the higher end of the spectrum, while if long-term employees previously managed the applications, the savings tend to be less. Companies that take advantage of global outsourcing also typically experience faster response to business drivers. When a manager comes in and says, "I need three reports for the board of directors tomorrow morning," the work can be done by the offshore team during its normal working day. But whether a project is being run from the next cubical, next city or 8,000 miles away, solid project management is the key to successful execution. ■



JONATHAN
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DOES OPEN SOURCE STILL MATTER?

Last year at this time, the open-source movement looked like a gravy train. Venture capitalists were tripping over each other to pump dollars into any start-up that mentioned Linux, open source or e-commerce on its home page. Management measured success in Web pages served, not dollars collected.

How times have changed! The high-tech stock market's plunge has made easy capital a thing of the past. Investors are now asking impertinent questions about business models, profitability and return on investment. A generation of opportunistic start-ups has quietly folded up shop; entrepreneurs have returned to the work force a little older and not much richer.

Amid all the layoffs and repossessions, the mortgage defaults and the empty office space, someone has to ask: Does open-source software still make sense? Did it ever?

JUSTIFYING OPEN-SOURCE

The effect of the high-tech market's downturn has been to raise the bar on every technology and business model, not just open-source development. When money is tight, every decision requires more justification and a clearer sense of what return can reasonably be expected. Heightened scrutiny in decision-making has exposed many of the open-source movement's erstwhile arguments as unsupportable.

You'll never get anyone to admit it, but the truth is that a high percentage—perhaps half—of all open-source projects were started simply because open source was fashionable. You couldn't open a high-tech magazine or newspaper without encountering stories documenting the open-source wave.

Prudent project and team leaders know that they must keep their fingers on the industry's pulse, and when a movement gains momentum as the open-source movement did, they react responsibly. They investigate. They buy books, attend seminars, start pilot projects. And if the movement seems sufficiently hot, they jump in.

There's nothing wrong with that. In the software industry,

the best-documented, clearest, most present danger is the habit of complacency. We work so hard to master a technology or platform—client/server, Windows, C++—that we are slow to move forward when a new development model or paradigm presents itself. And we have all seen that those who fail to move forward sink as surely as VA Linux's stock price.

So it is no surprise that many companies and projects were opportunistically launched as open-source trial balloons, without much thought about return on investment or the appropriateness of the model to the task at hand.

The tightening capital situation has reversed the open-source movement's momentum. Those enthusiastic trial projects look ill-conceived in retrospect. Fashion is no longer justification enough to go open source.

A BIT MORE DELIBERATION

Some enterprises jumped onto the open-source bandwagon because they thought they would save money. The purchase price of Windows 2000 Server is a million times higher than the purchase price of Linux, after all. Multiply that by a dozen servers—and slip a few copies of Linux onto the desktop while you're at it—and the savings add up. Or at least, that was the rationale.

In retrospect, this justification for moving to open source never made much sense. The purchase price of the operating system must be the smallest part of the overall cost of installing and operating an enterprise data system, dwarfed by training costs, support costs, the cost of change and other factors. Every analyst has a proprietary total-cost-of-ownership model, and everyone's equation is slightly different. But they all show that the low cost of acquiring free software is not a significant benefit when amortized over the lifetime costs of the system.

Open-source software may indeed save you a little bit of money. But the savings isn't sufficient to justify the disruption and cost of changing,

nor to sustain the boom in open-source computing.

IT'S THE MODEL

Thoughtful professionals have adopted open-source development after being persuaded by the eminently persuasive Eric Raymond. In "The Cathedral and the Bazaar," Raymond asserts that the open-source development model is immune to the productivity-limiting effects of Brooks' Law. Raymond's argument is that when you distribute responsibility across hundreds or thousands of developers on the Internet, productivity is not sapped by the usual coordination and communication issues. On the contrary, development is speedy because somewhere among all those thousands of programmers is someone who finds any sort of problem trivial. A bug that eludes your best programmer may be apparent at first glance to a developer in Singapore. An amateur in Germany may spend a weekend batting out a device driver or essential routine that would take your team, with less relevant experience, weeks or months.

Raymond's arguments were more convincing when open-source projects were being updated at a brisk clip. But now everyone knows that version 2.4 of the Linux kernel was delivered more than a year behind schedule. Somehow, the vast power of thousands of programmers did not come together to deliver the kernel update in a weekend as Raymond seems to say it should have.

So the jury's out on the issue of magic productivity gains. In any case, it's no reason for a prudent manager to choose open source.

A FINAL THOUGHT

So what's left? Is there no justification for open-source software? I think there is one potent justification left: the issue of security and control.

Visual Basic programmers who have begun experimenting with a beta copy of the .NET version of Visual Studio are learning the hard truth about closed-source, proprietary software. Microsoft has decided, for reasons that must seem reasonable in Redmond, to update

the Visual Basic language. As a result, every nontrivial Visual Basic program will be broken. Developers will have to rewrite routines they have counted on for years. To support the .NET platform, they will have to undergo substantial training in the new language. And all of this is happening at Microsoft's will and according to Microsoft's schedule. Millions of programmers are essentially held hostage.

That doesn't happen with open-source software. If you have the source code, you have control of your destiny. You can decide when and how to move to a new platform. You're not at the mercy of a single vendor.

And if you find that this increasingly wired world leaves your data vulnerable to attack, you can fix it yourself. You needn't wait for the vendor to admit that there is a security problem and provide a patch.

Open-source software lets you and your company control your fate. It may not be fashionable anymore, it may not save money, and it may not magically transcend the effects of Brooks' Law. But the open-source model can give you the control you need to make the best decisions for your company. Open source still matters. ■

OPEN SOURCE



J.D.
HILDEBRAND

SD Times
Software Development Times
March 1, 2001 - Issue No. 025

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Meet the Java Developer's Boss

A few years ago he thought Java was just another language craze, the next phase in the battle between Microsoft and Sun. But last year he seeded a few development teams with Java 1.1. Not only did the developers find the C++-like language easier to work with, but the apps proved to be stable and portable once JVM compatibility issues were worked out. Besides, the CIO has made it imperative that all of the company's legacy apps be Web-enabled and that means across different platforms too. Maybe Java is more than just the latest Silicon Valley buzzword.

He's been studying Sun's new J2EE release with some excitement. Now he's ready to let one of his development teams use J2EE and Enterprise JavaBeans to create a CRM system – deployed across the Web, of course. One of his biggest challenges won't be technical: corralling the Java programmers, who until now have

had complete freedom to choose their own favorite tools and libraries, into adopting company standards. Not only do standards mean better consistency during the development process, but also volume discounts, better tech support, and more effective training. That's why he now insists on signing off personally on any new Java purchases.

The Java journals? No thanks. The last thing he needs is programming tips, hunks of code, and blind, self-serving enthusiasm. He needs a wide-angle view of the entire spectrum of application and software development tools and he needs a rational, balanced outlook on future Java developments and how they fit into the enterprise. He needs to know the trends, the products, the alliances, the NEWS, and what it all means. That's why he reads *SD Times*.

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FROM A DISCREDITED PLATFORM TO VAPORWARE

In late January, Microsoft Corp. and Sun Microsystems Inc. reached a settlement in their bitter lawsuit regarding Microsoft's alleged abuse of the Java license. The deal, in which Microsoft paid Sun some \$20 million, also ended the companies' relationship on the Java topic. Microsoft may sell existing Java products and its now conformant JVM implementation. However, it cannot use the Java-compatible logo, and any Java products it sells must use Sun's 1997 Java code.

Needless to say, Microsoft immediately announced a strategy to move its Visual J++ users to the announced but not yet shipping .NET platform. During the past few years, Microsoft has been trying to demonstrate to IT that it can be a player in the enterprise space.

Forcing developers to migrate from a discredited platform to vaporware is not likely to raise Microsoft's standing in the eyes of data-center managers. The reason there will not be much of an outcry at this forced migration is that intelligent developers abandoned Visual J++ a while ago—first because of its dubious implementation, second because of the Sun lawsuit, and third because it had not been revved to anything close to current. The product was

already moribund. In fact, I have maintained for a while that the best part of Visual J++ was the wonderfully well-written introduction to Java programming. It was written by Stephen R. Davis and remains one of the best-ever introductions to the language. The manual will now sit on my shelf, destined to become a classic, along with manuals for Microsoft Pascal, Microsoft COBOL and other Redmondian programming culs-de-sac.

There is a wider issue here. In repelling Microsoft's efforts to tamper with Java, Sun reaffirmed its position as guardian of the language and its implementation. This topic, as we all know, has been the subject of some controversy. The controversy arises because Sun in its own way is no less aggressive than Microsoft and because Java's popularity coincided with the ascendance of the open-source movement. Hence, any technology that was central to the workings of the Web was going to feel the pressure to be open, or at least standardized. Sun's temperamental response to ECMA's conditions for certification in late 1999 further encouraged demands of a more-open Java process.

MIDDLEWARE WATCH



ANDREW BINSTOCK

However, as I have watched Sun twist and turn on this issue, my sympathy for its position of retaining control of the language has continued to grow. The principal reason for this view is that Java has thrived under Sun's stewardship. Sun has actively promoted the language and dedicated numerous engineers to improving the implementation so that it can, in fact, be used in mission-critical systems.

Moreover, Sun has managed to get its Java partners to extend the language in constructive ways. To hear IBM explain it, Armonk contributed much of the code for J2EE. If true, this suggests that Sun's process does in fact call forth contributions from other sources. It's hard to believe that Sun would do the same for a product it no longer controlled. And of the two, I would rather have Sun be Java's champion and continue developing the platform than have its source code fall under the GNU Public License.

GPL'd source code is no panacea. Consider Linux for example. Linux has indeed thrived under GPL. But even though Linus Torvalds still exerts fairly tight control over the kernel, he is no longer the prime developer of the entire Linux operating system, so he cannot articulate any vision for Lin-

ux—what will be in version 2.5 or 3.0. It depends on what other developers want to contribute time to. Could be graphics drivers, could be threads. Then again, might not. This lack of a road map is one reason major enterprises are a little goosy about using Linux in the heart of their IT systems.

Who knows how it will evolve? With Java, however, the presence of numerous partners working on a road map that has been explained makes a lot of sense. Does ECMA's lack of approval bother me? No. Doesn't bother me for Linux either.

As long as Sun has a community process and it does intelligent things with the language, I am in favor of keeping the status quo. Sun's track record in this regard is good: Since the early days of desktop applets, Sun has added EJB, JSP and now JMS technologies—all of which have clearly benefited high tech. In addition, the portability of Java bytecodes has been significantly enhanced. No open-source product has provided as many important innovations in so short a period.

If Sun keeps this up, I, for one, will continue to applaud. ■

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BIZTALK REALLY IS BETTER

My first experience with the XFL was, admittedly, a near total bust. Although my expectations for the Extreme Football League were low, I was hoping it would come through—the regular football season is just too short. But the NFL Goliath trounced the XFL David. Sometimes the big guy does win.

Take Microsoft, for example. The big guy's been taking a beating over the past couple of years, and not just in court. A number of attempts by Redmond to subvert or capture a new technology (Java and DHTML come to mind, for starters) have resulted in Microsoft's getting slapped down not only by Wall Street, but by its users as well.

But those occasional failures haven't stopped Microsoft from trying to capture a new technology, and with the January release of BizTalk Server, this next move may be the charm. I'm not saying that BizTalk will allow Microsoft to own interbusiness Web communication, or that it will swallow up XML, but I am saying that if Redmond pulls this product release off properly, the company will be in a position to take a big bite out of both those pies. For developers, this means paying attention to Microsoft even if you don't prefer to program in that realm.

The first hint of BizTalk's potential wasn't the price tag, regardless of how eye-popping it may be (roughly \$25,000 per CPU for the enterprise version); it was the release of the BizTalk Framework (BTF) 2.0 last year. BTF 2.0 is a direct extension of Simple Object Access Protocol (SOAP) 1.1—another misty specification, but one that is gaining real momentum even from those traditionally labeled as Redmond-neutral.

Those familiar with SOAP 1.1, however, will be pleased to find that BizTalk handles everything that SOAP 1.1 can, including DTDs, namespaces and schemas—everything except for its remote procedure call (RPC) usage. It even extends SOAP by adding simple messaging as well as binary attachments. All of a sudden, you've got a defined sandbox in which to really dig into SOAP—something that's been a mite hard to come by of late.

But what's nice about this sandbox is that it doesn't seem to drag you inexorably into the Microsoft mire. Yes, the hooks to .NET and Windows 2000 are certainly there, but there is significant third-party support for BizTalk, notably from IBM, to make me a little

WINDOWS WATCH



OLIVER
RIST

less leery of winding up with a Microsoft-only solution. Indeed, the whole point of BizTalk is to communicate between disparate systems so a Redmond-only design really wasn't in Microsoft's best interests.

The BizTalk Framework boils down to an XML framework aimed at integrating e-commerce applications. Within this package you'll find design guidelines for building XML schema as well as a predefined set of XML tags designed for use in interapplication messages. Because the BizTalk Framework has backing from other software companies and standards organizations, you will see it used to produce consistent third-party XML schemas. And many of these will be accessible by the development community at large, as they'll be stored in the BizTalk Repository at www.biztalk.org. This is where Microsoft has finally managed to score: It has positioned the BizTalk Framework as an enabling technology, not a standard. XML and SOAP remain the standards; BizTalk just helps developers use them effectively—right now.

Of course, there will certainly be Microsoft-specific hooks, notably the special XML tags for application messaging as well as the BizTags, which describe how applications should handle BizTalk Documents. But all this is much

more straightforward (and manageable) than what Redmond has tried to do in the past—Java and DHTML again jump to mind. You don't need to tread as carefully to build a standards-compliant application with BizTalk as you might have had to using an early version of Visual J++, for example.

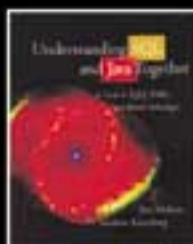
And BizTalk still has a number of hurdles, such as competition. RosettaNet and ebXML are two biggies, though Microsoft has already stated that BizTalk will be able to speak Rosetta-ese in the near future. Another problem is complexity—not of BizTalk itself, but of its underlying systems, mainly Windows 2000 and IIS. These platforms are critical in a BizTalk application.

The last hurdle is price. Microsoft will need to demonstrate significant value to get solid market penetration. Especially because, while there may be few Microsoft-only trap doors for developers, systems managers using BizTalk will find plenty of tugs toward other Microsoft platforms, including Windows 2000 Advanced Server or Data Center, the .NET Framework and the other BackOffice 2000 servers. At \$25,000 per CPU, the proof better be in the pudding. ■

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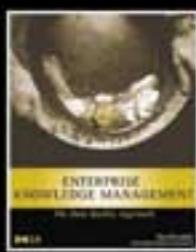
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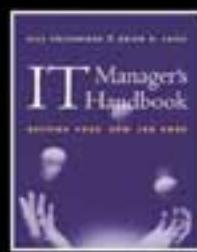
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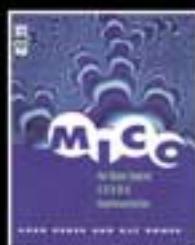
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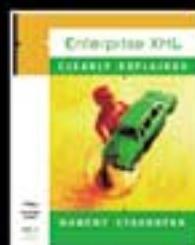
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MOM & POP, CLICK & SHIP

The next great wave in Internet commerce may well be when small manufacturers discover the ease and low cost of electronic commerce. Take Tamal Vista Publications, a tiny publishing house that has 10 books, primarily on how to build a woodstrip boat in your garage. Most of the time, Tamal Vista is a part-time activity for the Defremery family, and the press is as much a labor of love as an economic engine.

A few years ago I pointed the Defremerys to iCat, one of the first online malls. iCat, which offered free listings and charged for larger catalogs, highly customized stores and credit-card clearing services, was perfect for the low-volume Tamal Vista Publications. But when iCat recently announced the elimination of its free services, Wayne Defremery asked me what would be involved in moving their merchant services literally in-house.

"LAMP," I said, meaning "Linux-Apache-MySQL-PHP, Python or PHP," which is the baseline architecture for low-cost Web services. Although most SD Times readers are probably nodding along, it is worth reflecting on how radical it is to suggest to a small business that a new, unfamiliar, non-Microsoft operating system has more advantages than disadvantages.

The prospect of the small businesses of the world being introduced to Linux should terrify Microsoft—the enterprise

battle is already joined among Linux, Unix and Windows, but the small business and home markets have seemed impenetrable. But everyone wants to sell on the Web. Cottage industry is a killer app.

I mused on this as we cruised the aisles of the local CompUSA looking at packaged Linux distributions. There must have been a dozen to choose from, all mistakenly packaged to appeal to geeks. OpenSSL, RAID support, Professional Server Applications—all features that geeks know can be downloaded for free. I was looking for "eCommerce in a Can"—an SSL-enabled Apache with a shopping cart package, some kind of service option, maybe a discount on the SSL certificate, maybe a subscription to the "Web Entrepreneurs Club." Hey, anyone at Red Hat listening?

Finally, we bought a copy of Red Hat 7 and began the install. As I was waxing about the bulletproof reliability of Linux, the install failed to recognize the chosen machine's CD recorder drive and suddenly we had a box that had no operating system and no apparent route to recovery. I pulled an older CD-ROM that I figured was certainly ATAPI-compatible from another box, and the install continued until hanging while initializing the Ethernet card.

After booting into a lower run level,



WEB WATCH

LARRY O'BRIEN

reviewing the network settings several times and rebooting several times, Wayne Defremery realized the network cable wasn't connected, and sure enough that seemed to be the cause. When the system booted into graphical mode, the mouse wouldn't respond. Ultimately, this was no big deal, as the system was to be set up as a server and to be primarily administered remotely, but the experience was a dash of cold water—my first bad experience installing Linux, but it was *significantly* bad. The whole value proposition of Linux to Tamal Vista is its robustness, a quality that failed three times in the first few hours of their initial exposure.

Once Linux was up, it was time to start working on the Web services. I was delighted that Red Hat 7 comes with a version of Apache already enabled for SSL, but was disappointed at the documentation. Not only was there not a "Click here, dummy" route to generating a Certificate Signing Request, the documentation was clearly written for developers, not end users. Luckily, I've done enough CSRs to get the process under way and when I finally left for the day, I thought it would be clear sailing from here on out.

The next day, it became clear that Tamal Vista really needed shopping cart functionality, as hobbyists building woodstrip boats generally buy multiple books on the subject. While it's possible that the Red Hat distribution comes with a shop-

ping cart program on one of its CDs, there is no list of packages in the print documentation and, with no GUI working, I was not about to use command-line tools to explore. So we used another Windows-based PC to search the Web and then discover Akopia, whose Interchange Open-Source commerce software looked quite professional.

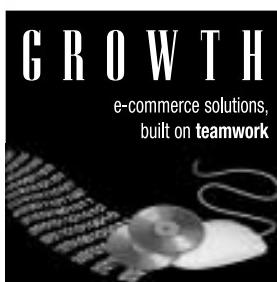
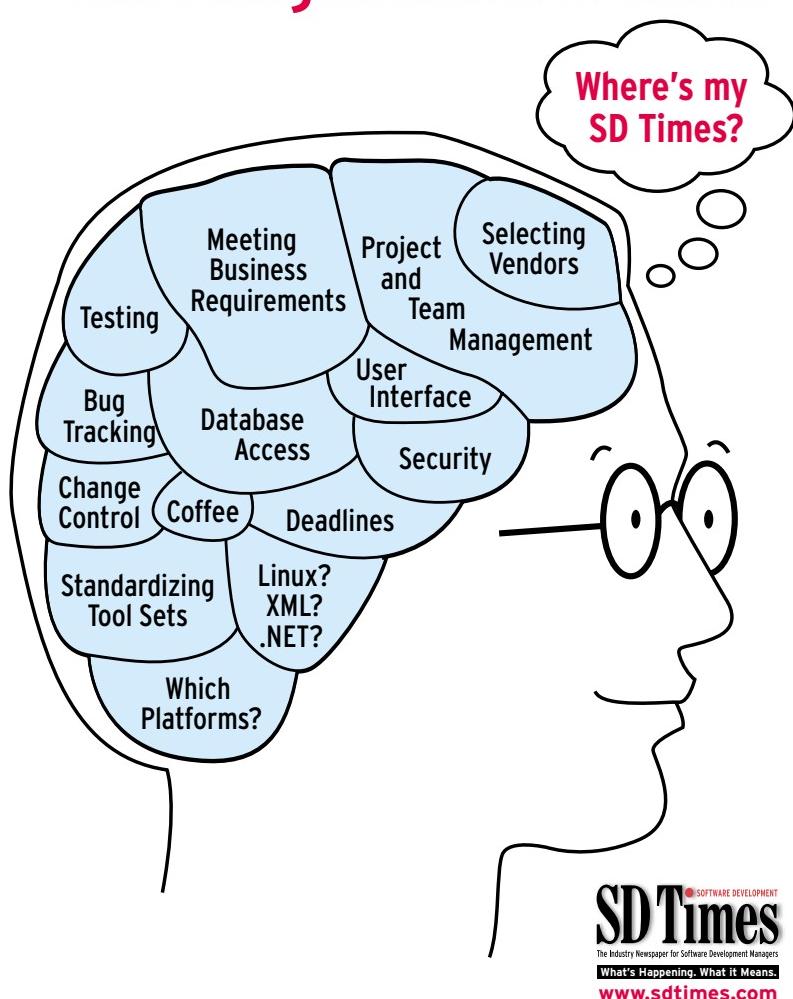
Akopia Interchange is excellent; I highly recommend it. An incredibly clear tutorial guides you through the basics of the system and makes it clear how you'd go about extending it. Akopia makes its money on services, and the only problem I can see for them is that the software seems so good that many people will forego paying for training or support.

There was one more problem with the system, but it involved the router, so I won't go into it beyond saying that when a router doesn't support loopback, one can get very confused as to whether one's network is working properly.

As of this writing, the new Tamal Vista is waiting for its SSL certificate and additional Web design. While the cottage Web entrepreneur glass may be considered half-full in that it is not terribly difficult to set up a complete system in less than three days, I see the glass as half-empty. ■

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LINUX AND THE TIPPING POINT

Last year, the author Malcolm Gladwell published a thought-provoking tome called "The Tipping Point," which put forth the notion that small events can take an idea to a critical mass, after which it becomes widely accepted—creating social epidemics. In the work, Gladwell noted that tipping points require "that we reframe the way we think about the world."

These epidemics, he said, require three types of people: mavens, so-called information brokers who store knowledge and readily share it; connectors, who can bring the information to a wide range of people; and salesmen, the persuaders who can get skeptics to accept the information. A tipping point also requires stickiness, which is the characteristic of the idea that makes it memorable, spurs action and creates change.

Is Linux at the tipping point? When you look within big companies, it can be argued that the use of the open-source operating system has indeed become an epidemic, according to Gladwell's standard. First at the party were the mavens—the Linus Torvalds and Richard Stallmans of the world, who knew of the power of open software. Then came the connectors—the believers within the broad, diverse "hacker community" of developers who spread the word. Next were the salesmen—the Bob Youngs and John Augustins, who convinced people that Linux can be used cheaply, securely and stably.

The result of their efforts is that Linux has become the No. 2 operating system on servers, behind only Microsoft, and ahead of all Unix distributions combined. Its primary use has been almost appliance-like in Web content servers, fileprint servers and base routers. But what are the

factors that will "tip" Linux into the enterprise, for the creation, integration and deployment of native applications?

Cost. The operating system itself is free; packaged versions can be purchased from third parties that include support. Also, since Linux is less hardware-intensive than other systems, there is a hardware cost factor that is not to be minimized. For a new enterprise, or one making a shift from Unix, where retraining is not much of a factor, the total cost of ownership is greatly reduced. As one software engineer from the Long Island Rail Road put it at the recent LinuxWorld Conference & Expo in New York, "Why is TCP/IP a standard? It's out there, it's free, and it works. I see the same thing happening with Linux."

Reliability. Simply put, Linux almost never crashes. If there is a problem, the solution usually can be found within the community; hence, a user is not at the mercy of a vendor's development cycle to get the defect fixed. Also, if improvements are needed, Linux can be customized to handle new features (so long as those features are returned to the open-source community).

Accountability. One of the factors that has kept Linux out of the enterprise, industry vendors acknowledge, is that customers want to know where to go to point a finger if there is a problem. Now, a growing number of third parties offer round-the-clock support, including Caldera, Red Hat, SuSE and TurboLinux. IBM, which plans to spend more than \$330 million in Linux services development over the next three years, is ready to offer the same level of support for Linux as it does for its own platforms.

The Middle Tier. This is an area that, until now, had been locked up by

Microsoft, with its COM architecture, and Sun's Java 2 specification, with JMS. IBM's announcement of MQSeries for Linux could be the first step in breaking the stranglehold, allowing Linux applications to connect to applications on other systems.

Tools. Borland has introduced Kylix, the first RAD toolkit for creating native Linux applications. IBM has released the Visual Age for Java IDE for Linux, and has added support for the WebSphere family of products to deploy on.

Momentum. Nothing helps build momentum quite like, well, momentum. Look at the lineup of heavy hitters working in the Linux arena: Borland, IBM, Oracle, Sun. As some of the industry's biggest players come to embrace the operating system, others will follow suit, and that most certainly will tip the scales for Linux.

ROCKIN' IN THE FREE WORLD

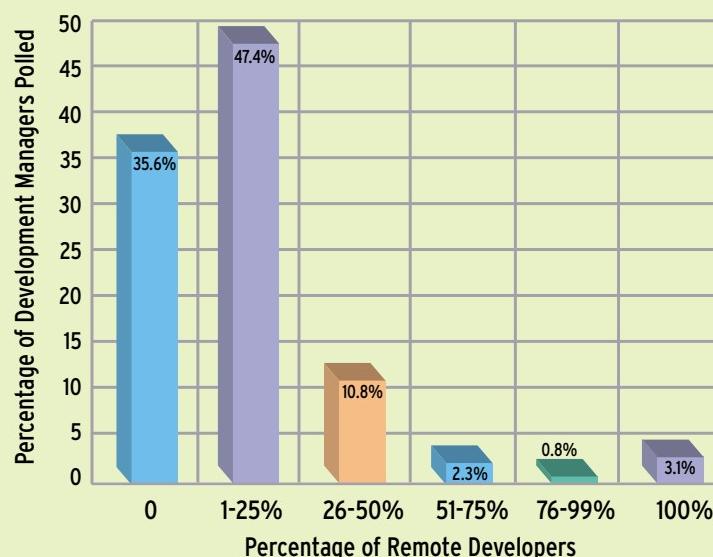
Now, just because Linux in the enterprise is set to take off doesn't mean that being in the business of selling Linux implementations is necessarily a good thing. It can be difficult selling a free product, as two of the most respected Linux distributors—SuSE and TurboLinux—announced layoffs late last month.

SuSE is reported to be laying off 75 percent of its U.S. work force, yet claims its commitment to this market will not be affected. No reason was given for the move. TurboLinux is said to have begun laying off 40 of its 120-member staff as part of a restructuring brought about by its acquisition of LinuxCare, which is reported to be laying off 10 percent of its staff.

Unless distributors can find compelling Linux services and a sustainable business model, Linux may very well grow like weeds in the enterprise while vendors wither on the vine outside. ■

David Rubinstein is executive editor of SD Times.

What Percentage of Enterprise Developers Work Remotely From the Core Team?



EVANS DATA WATCH

This study found that a large number of managers are exploring several development alternatives available to them. The majority of development managers, 64.4 percent, report to have developers working apart from the core team.

Of those who are working with developers in different sites, almost 50 percent report that one-quarter of their team is remote from the core team, and about 10 percent say half their team is remote.

Source: Evans Data Corp.,
Enterprise Development Management Issues,
Volume 2, 2000

BUSINESS BRIEFS

Progress Software Corp. has created three operating units for its businesses, and has set up an R&D unit to pursue opportunities in the e-business market, the company announced. **Progress Co.** will handle the Progress 4GL, WebSpeed, Progress RDBMS and related products. The other two units, **Sonic Software Corp.**, which will manage the Sonic MQ message-oriented middleware product; and **NuSphere Corp.**, which will oversee the NuSphere MySQL open-source database, have been set up as wholly owned subsidiaries of Progress Software Corp. . . . **Starbase Corp.** has signed a definitive agreement to purchase **Worldweb.net**, a Web content management solution provider, for \$26 million in stock and cash. With the acquisition, Starbase will be able to integrate Worldweb's Expressroom I/O, an XML content management application, into its line of code and content management applications. "We believe Starbase will be the only software company in the marketplace that offers the essential, collaborative e-business application processes of code creation, code management, content creation and content management," William Stow, president and CEO of Starbase, said in a statement . . . Eight executives at **Citrix Systems Inc.** exercised stock options and then sold the shares in January. The group sold more than 571,000 shares with an approximate value of \$19.3 million. ■

CALENDAR OF EVENTS

Software Test Automation Conference & Expo March 5-8

The Fairmont Hotel, San Jose, CA
SOFTWARE QUALITY ENGINEERING
www.sqe.com/testautomation

Converging Technology (CT) Expo March 6-8

Los Angeles Convention Center, CA
CMP MEDIA INC.
www.ctexpo.com

eSecurity Conference & Expo March 27-28

Sheraton Boston Hotel, MA
INTERMEDIA GROUP INC.
www.imgevents.com/security

ApacheCon April 4-6

Santa Clara Convention Center, CA
CAMELOT COMMUNICATIONS CORP.
www.apachecon.com

XML DevCon-Spring April 8-11

New York Marriott Marquis, NY
CAMELOT COMMUNICATIONS CORP.
www.xmldevcon2001.com

Software Development Conference & Expo April 8-12

San Jose Convention Center, CA
CMP MEDIA INC.
www.sdexpo.com

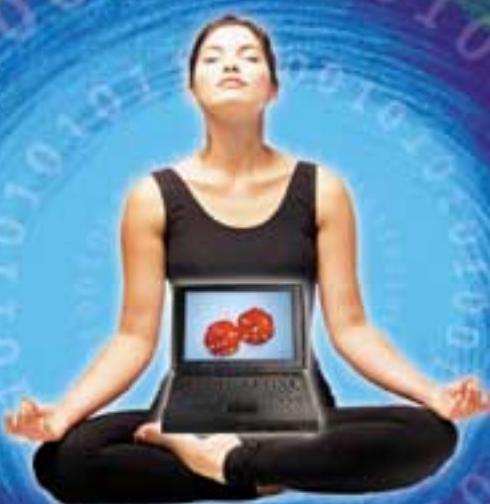
Embedded Systems Conference April 9-13

Moscone Center, San Francisco, CA
www.esconline.com/sf

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